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THE CARNEGIE NUTRITION LABORATORY AT BOSTON, MASS. [See p. 259]

THE
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WOMAN'S PUBLIC WORK FOR THE HOME AN ETHICAL SUBSTITUTE FOR COOPERATIVE HOUSEKEEPING.

CAROLINE HUNT.

If the history of household industrialism had been written we should find in its later chapters a record of repeated experiments in cooperation. These experiments have never been successful; one after another they have gone down to disaster. The term "Cooperative Housekeeping" is in fact so associated with the idea of failure that it has been abandoned even by those who are still in sympathy with the movement and who still hope for the final realization of its ideals. In the meantime, the immediate and practical purpose of these experiments and the only purpose which the public in general has understood and appreciated, that of lessening the amount of work necessary for housekeeping, has been accomplished by other means. These means may be described as the delegation of household activities to specialists as distinguished from the "pooling" of household tasks which was the dream of the advocates of cooperative housekeeping.

In looking back over a residence of 35 years in a small western city, it is clearly seen that during that time the housekeepers have passed many of their industries over to municipal boards and to private business corporations and firms. To the former, they have given the work of drawing water and of disposing of sewage, garbage and other forms of household waste. To the latter they have entrusted the tasks of heating and lighting their houses and supplying them with fuel for cooking. Public laundries have been established and the variety of cooked foods and ready-made clothes on the market has greatly increased. Other progressive towns have moved in the same direction and the work necessary for housekeeping has in all parts of the country been greatly reduced.

It would, however, be unfair to the more intelligent and public-spirited advocates of cooperative housekeeping to say that the benefits which have come by this process of delegation of household labor to specialists are a substitute for those which they hoped to secure by the "pooling" process. This is true whether we consider the immediate practical reforms which they sought or the more indirect moral and spiritual benefits which they anticipated. Economy of energy was with them merely a stepping stone by means of which they hoped to reach better methods and higher standards in housework. Nor was the equitable distribution of benefits, which is the fundamental principle of all forms of cooperation, an end in itself. In the effort to secure such distribution they hoped to develop in themselves some of the best and most desirable of human qualities; adaptability, tolerance, generosity and helpfulness. They hoped that their cooperative enterprises would be a school in which they could learn and develop the gentle art of mutual aid. They saw that cooperation was successful in the home and productive of valuable traits of character. It was, however, operative within very narrow limits and they hoped that cooperative housekeeping would extend the area without destroying the spirit which pervaded it. They hoped that it would create an environment wider than the individual home within which a premium would be placed, as it is in family life, upon those characteristics which draw men together and enable them to work harmoniously for the common good, upon trustfulness, unselfishness and forbearance.

Enlargement of a cooperative area, however, brings with it a multiplication of the problems involved, and it is evident that at present human beings are unable to overcome the difficulties attendant upon the voluntary association of family groups for housekeeping purposes. They lack both the goodness and the wisdom. This it seems clear we must admit, even those of us who are sure that after we have become sufficiently good and sufficiently wise we shall not wish to experiment in cooperation. We must admit that we are not good enough unless we wish to undervalue unselfishness, the spirit of self-sacrifice and mutual helpfulness and the willingness to compromise and make mutual concessions in the interests of the greatest good of the greatest number, for cooperative housekeeping would certainly put a

larger strain upon these virtues than our present methods of living.

That we are not wise enough to enter extensively upon technical cooperative enterprises is shown by the fact that we are prone to confuse equitable with equable distribution of benefits and to adopt the latter which though easy is thoroughly unfair except, it should be added, where little children are concerned. We all, it may be conceded, have come to believe that all children should be given equally good starts in life, equally pure air, equal access to the sunlight, equally nourishing and pure food, and equally thorough education and training. But after people are grown and have developed different degrees of industry, ability and talent, their rewards must, in some measure, be apportioned to their contributions to the common life. The more a person puts into a cooperative enterprise, the more of thought or of labor, the more he should in fairness get out of it and it is doubtful if we are yet wise enough to measure either what he contributes or what he should receive in return.

We need goodness, knowledge and judgment before we can make cooperation successful. But added goodness, knowledge and judgment will come only with experience. We can grow good enough and wise enough to cooperate only by putting ourselves at every opportunity into positions which will develop within us the talents and the virtues which make successful cooperation and united action possible. We can learn to work together only by working together; to cooperate only by cooperating.

In view of the world's need for developing among all people the power of association, certain features and conditions of women's work for the home assume peculiar significance. When they gave up household industries and began to buy the commodities which were used by the families, women moved from the very limited but purely cooperative environment of the home into an enormously wide environment in which competition rather than cooperation is the controlling motive and in which those qualities which drive people apart rather than those which draw them together are developed. This is true except so far as they have delegated their duties to the government. All municipal enterprises, water and sewage systems, hospitals, play grounds, boards of public works, boards of health, public schools,

in fact all public institutions which help the home to keep clean, to ward off disease and to perform its important function of education, are in a sense cooperative. The housekeeper who sees that the work which these institutions are doing is really her own work, which she has merely delegated to them, finds a field for cooperation with other housekeepers who have delegated their labors to the same institutions. When the women of the town work together to secure for all homes, those of the poor, the ignorant and the unenlightened as well as those of the rich, the uneducated and the wise, the benefits of pure milk, for example, or clean markets, they create for themselves an environment which is similar to the old-fashioned home. There work and cooperation are the watchwords; there the welfare of the home is the end in view; there adaptability, tolerance and consideration are demanded; there unselfishness and the spirit of self-sacrifice are developed.

But the majority of household industries are delegated not to public institutions, but to private corporations and business firms. The lighting and heating of houses, the supply of hot water from central plants, pneumatic cleaning, laundry work, the spinning and weaving of cloth and the making of garments, the curing of meat, the making of butter, are now the tasks of the business world. In this world the spirit of mutual aid does not prevail. On the other hand all the profit which comes from production on a large scale becomes a bone of contention between producer and consumer. In the business world there are numberless opportunities to be kind, thoughtful, generous and helpful, but these are the incidents of business, not business itself. In business itself one man's interests are set against another's. It is into this kind of a world that most of our household industries have been carried.

Women, therefore, have moved into an environment in which they must seek opportunities for cooperative action, instead of finding them as a matter of course, as they formerly did, when their lives were passed almost exclusively in their own homes. Opportunities for united action may be found at present in the development and maintenance of municipal institutions, hospitals, play grounds, reading rooms,—it would be well if one could add central heating plants, central pneumatic cleaners, bakeries, laundries and dairies. They are found also in the need for im-

provement in the quality of work done by municipalities. We need to unite to secure more efficient inspection of dairies, markets and bakeries, better smoke laws, better care of the streets, speedier and more satisfactory disposal of household waste, better protection of the home against infectious diseases, better building laws.

Such work is being effectively done in many places through departments of the women's clubs and through civic leagues, hospital, playground and public-school art associations, and child-labor committees. One city is said to have gone so far as to establish a Children's Bureau to promote the interests of children in its locality just as the National Children's Bureau is expected to promote the interests of all the children of the county.

Still further opportunities for cooperation are to be found in the establishment of employment agencies and women's exchanges and particularly in the effort to secure for all who work for the home, in public or in private, proper conditions of work and fair remuneration. "The Consumer's League," "The Woman's Trade Union League" and "The League for the Protection of Immigrant Women" have these ends in view. It is only by activities like those represented by the associations mentioned, that spiritual benefits of our present system may be had comparable with those which intelligent advocates of cooperative housekeeping sought. Only through work of this kind can we add improvement in methods and standards to economy of energy, as they hoped to do; only thus can we secure the development of character which they anticipated.

The relation between the material and spiritual benefits of united action for the improvement of home conditions is shown by the characters of various kinds of women who illustrate the different attitudes which it is possible to assume toward public work for the home. In one class, we have women whose only thought is to get out of work, women who have taken advantage of all kinds of modern labor saving schemes and devices, who have given up all household industries as fast as opportunities presented themselves and who have made no effort to meet the responsibilities which are coming to the home under its changed economic and industrial conditions. These women are at present among our most interesting and unpromising citizens.

In the next class are the women who see that their personal safety and comfort call upon them to unite with other housekeepers to combat the evils which arise from present methods of production. These women may from purely selfish motives take part in campaigns for better milk and purer food, and in spite of the selfishness of their aims, they get breadth of wisdom and experience in public work which make them interesting and valuable members of society if not public spirited citizens.

Finally there are the women who are uniting with others in public work for the home, not for the benefit and protection of themselves and their families alone, but for the benefit and protection of all. These women are finding a field for disinterested service larger than the private house but including it. This broad field of labor rather than the modern home alone is the logical successor to the home of the past with its multiple productive activities and those who work in it and not those who confine their interests within the four walls of home are the logical successors to the house-mothers of old. In this field are performed not only the end processes in the production of household commodities as in the home of today but as in the home of yesterday all those processes by means of which these commodities are made from raw materials. Here are met all those who labor for the home whether within its own narrow borders or in factories, offices and public institutions. Here the housewife learns to know those to whom she is indebted for the goods she consumes in her home; here she is able to work with and for these public household servants.

If the usefulness of various classes of citizens is indicated by the demands which are made upon them for assistance and advice, the women who are accepting the responsibilities of this broad field of labor and who are seizing its opportunities are growing rapidly in power and in capacity for service. They seem to have created for themselves an environment which calls for and develops the best qualities of mind and heart. Perhaps this environment is ethically at least a substitute for cooperative housekeeping.

Prayer and provender delays no man's journey.—OLD PROVERB

The fate of nations depends on how they are fed.
Plain food is quite enough for me.—OLIVER WENDELL HOLMES.

HOME PROBLEMS FROM ONE WOMAN'S POINT OF VIEW

A writer in the *Atlantic Monthly*, under the title, From An Average Woman, gives expression to some views regarding home problems which she believes are those of many average women, —that is women of experience and training, but with a preference for home life rather than for public life though possessed of sympathy with movements pertaining to the public welfare. The article is written from the point of view of one who secured a well-rounded education by obtaining domestic matters at home and academic education at a modern high-school and one of the New England colleges for women.

"I have no quarrel with my Alma Mater, as has one of my contemporaries with hers, because she did not teach me 'that if one is able to afford two vegetables with one's joint, they had better not be rice and potatoes.' I learned that in my mother's home before I went to college, together with other domestic accomplishments, including the making of bread and the darning of stockings."

Her college work in the classics she appreciates for more than its mere discipline:

"All along the way I received little flashes of inspiration and illumination which enrich and sweeten life for me even to-day."

College laboratory work particularly that in biology and botany is appreciated for the light it has given on physiological problems, and "knowledge of myself which has resulted in a sounder body and a saner mind. Quite aside from this, college increased my earning power, my sense of responsibility, my joy in literature and in life."

For five years after graduation the writer states that she was a business woman and very happy in her work, but also that she has been far more happy in her five years of married life, and more independent than when in business.

"I have a housekeeping allowance and one for my personal needs, as regular as my salary used to be; I have the control of my time, my work is not so monotonous, and my workshop is what

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[1] *Atlantic Monthly*, 103 (1909), No. 4, pp. 574-576.

I choose to make it. I do not feel like a 'paid housekeeper,' nor 'an unpaid domestic.'

"Now for my hypothesis: I believe that housework is an interesting and worthy craft, and that the majority of women, those who are not fitted for a career, enjoy it, or would if it were considered fashionable. I believe that housekeeping is a stimulating profession. I believe that home-making is an art. I believe that motherhood is a divine mission. All these are platitudes; is there any woman, out of print, who really has a different opinion?

"I believe that marriage is a life-partnership, to be entered upon only where there is mutual liking as well as love. . .

"It seems to me only reasonable that a young woman should not marry unless she is both able and willing to keep house; even as she studies typewriting and shorthand before taking a position as stenographer. There are schools of domestic science reasonable in price, if one cannot learn at home. . .

"I believe—and here I may be considered a rank heretic, even by other average women—that housewives do not have a monopoly of the drudgery of life. My personal definition of drudgery is compulsory work that one does not know how to do well. . .

"Nor is the varied routine of the work of a house more monotonous than heating one iron bar after another, hour after hour, day after day, for instance; or adding up one column of figures after another. To my mind, who have tried both, the reading and editing of manuscripts grows monotonous and wearing sooner than the doing of all my 'own work' without a maid. . .

"In the conduct of my household I have dealings with the Chinaman, the Italian, the Greek, the African, the sons and daughters of Ireland and Germany. All the problems of race and creed are at my back door, and I am willing to follow where they lead; but if I do, and if I continue to make old age less a barren waste for the aged in my home, and start the young in the right way to independence and happiness, and share my home with all the relatives and friends who have a claim upon my hospitality, am I neglecting the 'real work of the world'? I ask in all humility, for myself and for all the average women I represent, who rejoice with me that there are women of larger leisure and greater ability to espouse the cause of the working girl, and the child who should not work, and to secure better conditions in town and state."

U. S. GOVERNMENT PUBLICATIONS AS SOURCES OF INFORMATION FOR STUDENTS OF HOME ECONOMICS.

C. F. LANGWORTHY,

U. S. Department of Agriculture.

It is safe to say that very few persons realize the extent and variety of the publications which are issued by the different branches of the United States General Government, or have any adequate idea of the large amount of valuable data upon a wide range of topics included in these publications.

From time to time special lists of U. S. Government documents have appeared, and at the present time full lists and indexes of current publications are issued. It is to be regretted, however, that there are no entirely adequate indexes of the earlier publications of Government documents as a whole.

In 1885 Poore's Descriptive Catalogue of the Government Publications of the United States, September 5, 1774, to March 4, 1881, was published. The volume contains titles of publications arranged chronologically and an author and subject index. Though this work is of very great interest and value the material included is to some extent selected and the classification naturally makes no special effort to include Home Economics topics as the subject has been developed very largely since this work was undertaken.

The Comprehensive Index to the Publications of the United States Government, 1881–1893, by Ames, which was published in 1905, is essentially a continuation of Poore's Index, though the method of arranging the material alphabetically makes it much more useful.

In 1902 the Superintendent of Documents published Tables of and Annotated Index to the Congressional Series of United States Public Documents, which is a valuable and useful check list of Government documents. To a certain extent the material included is selected. This publication was followed by the Document Catalogue referred to later.

The fact that the Government documents are so numerous and so varied in their subject-matter makes it difficult for librarians or

individuals to classify and arrange the publications in such a way that the contents are easily made known and accessible, and doubtless this is one reason why they are not more generally consulted as works of reference. Another reason which has been suggested for a lack of appreciation of Government documents is the fact that for many years they were very generally distributed free of cost and it seems to be a failing of human nature to consider that anything which is given away cannot have very much value. Within recent years there has been a decided change of policy and a great variety of publications are now sold.

With a few exceptions U. S. Government documents of all kinds are published at the Government Printing Office in Washington. The list of documents includes a wide variety, ranging from the Congressional Record which appears daily and records in detail all business carried on by both Houses of Congress, to special bulletins, annual reports, periodicals, and many other kinds of publications. These documents are prepared by the different departments of the General Government, by Congress, by special commissions, and in other ways, and when ready for publication are submitted in due form to the Public Printer who is the head of the Government Printing Office and may be termed the Government Publisher.

With the exception of certain series of popular bulletins and other publications of general interest the Government publications are intended for sale. The price asked is merely sufficient to cover the cost of publication. In this respect the United States follows a plan adopted by a number of other nations. Thus, the so-called "Bluebooks" and other public documents of Great Britain are with few exceptions sold and not distributed gratis. There is this difference, however, that in Great Britain the sale of Government publications is in the hands of private firms designated for the purpose, whereas in the United States a public official, the Superintendent of Documents, supervises the storage and sale of public documents.

The United States Government is unusually generous in that the price of documents is so low that they are really within the reach of almost any person who may need them. It is also the policy to send publications free of cost in special cases to actual workers in many fields of inquiry.

Another important way of bringing publications into the hands of the public free of cost is the legislative enactments which provide for depositing Government documents in public libraries throughout the country.

Under proper restrictions Government documents are forwarded by mail without payment of postage, the use of this franking privilege being provided for by act of Congress; violations of its proper use being punishable by fine.

In connection with the question of the sale of documents and method of purchase, the following quotations from information circulated by the Superintendent of Documents are of interest:

"The Superintendent of Documents is authorized to sell at cost any public document in his charge, the distribution of which is not otherwise provided for. Only one copy can be sold to the same person, excepting Members of Congress, or to libraries or schools.

"Documents can not be supplied free to individuals [by the Superintendent of Documents], nor can they be forwarded in advance of payment.

"The accumulation of publications in . . . [the office of the Superintendent of Documents] amounts to several millions of which about 700,000 are assorted, forming the sales stock, and covering nearly every important department, bureau, and series. Many rare books are included, but under the law all must be sold 'at cost,' regardless of their age or scarcity. Of many of the most valuable works only one or two copies remain.

"In ordering [from the Superintendent of Documents], it should be borne in mind that most of the books have been in stock some time, and are apt to be shop-worn. In filling orders, however, the best copy available is sent.

"This Office possesses the most complete collection of U. S. Government publications in the world, and employs several document experts in reference work. Information regarding public documents will gladly be supplied.

"As the sales office for Government publications, we are anxious to inform the people how and where to secure documents they may desire.

"Lists. . . on various subjects, will be issued from time to time for free distribution. No general price list of public docu-

ments is at present available, but lists on special subjects will be furnished on application.

"Remittances should be made to the Superintendent of Documents, Washington, D. C., by postal money order, express order, or New York draft. Currency may be sent at owner's risk. Canadian postal notes will be accepted only when the name of the issuing office is plainly stamped on the face of the note. If postage stamps are pasted on, the note will be returned.

"Postage stamps, foreign money, uncertified checks, defaced or slick coin will positively not be accepted.

"No charge is made for postage on documents forwarded to points in the United States, Guam, Hawaii, Philippine Islands, Porto Rico, or to Canada, Cuba, or Mexico. To other countries the regular rate of postage is charged, and remittances must cover such postage."

The Superintendent of Documents issues a Monthly Catalogue which gives a complete list of U. S. Government publications of each month, including those of the President, both Houses of Congress, the Executive Departments, Library of Congress, Smithsonian Institution, and Bureau of American Republics. Each number has a preface entitled "Notes of General Interest," in which comment is made on the most notable publications listed therein.

The Monthly Catalogue is sent to each Senator, Representative, Delegate, and Officer in Congress, to designated depositories and State and Territorial libraries, to substantially all Government authors, and to as many school, college, and public libraries as the limited edition will supply.

"Subscription price to individuals, $1.10 a year. Back numbers can not be supplied. . .

"Beginning with the fiscal year 1909, there will be a cumulative index to the Monthly Catalogue for half-yearly periods. That is, the August number will contain an index to the July and August numbers, the September number will index three numbers, and so on until December. The June number will contain an index for the year."

For many years it has been the policy of the General Government to deposit its publications with selected libraries in different parts of the country. There are now 615 such libraries representing practically all regions of the United States. These

libraries are designated by Congressmen, and may be changed, so it follows that many libraries have only fractions of sets of the Government publications. If the intention of those responsible for this method of depositing Government documents were carried out, it would be possible for a person in any part of the United States to consult at some library in his vicinity any Government document which he wished to see, but it is too often the case that on receipt at a library Government documents are stored in some lumber room or disposed of in some similar way. Perhaps this is natural, for their very quantity is an embarrassment unless a library is unusually well equipped with a staff of cataloguers and other workers, and it is true of these documents, as perhaps of no other group of publications, that full classification and indexing are needed if the material contained in the volumes or pamphlets is to be accessible. For instance, the "sheep set" of documents, so designated from the fact that it was for many years bound in sheep skin, contains the documents and reports of the Senate and House, the annual reports and yearbooks of different departments and Geological Survey bulletins, and much other matter From these statements it is apparent that no casual examination of the volumes would give an idea of the extent and character of the material which they contain. It is a great help to workers to know that the document index which is published for each session of every Congress contains a full index of the material included in the corresponding volumes of the sheep set. Furthermore, the Superintendent of Documents now publishes a "Document Catalogue" which appears as a document of the House of Representatives. On the title page of the last volume, which appeared in 1908 as Document No. 483, Fifty-eighth Congress, Third Session, House of Representatives, the title is as follows: "Catalogue of Public Documents of the Fifty-eighth Congress and of Other Departments of the Government of the United States for the Period from July 1, 1903, to June 30, 1905." The scope of the volume is indicated by the introductory paragraphs of the preface which are as follows:

"This, the seventh number of the Document Catalogue (Comprehensive Index), includes all documents and reports submitted to Congress, March 5, 1903, to March 4, 1905, without regard to the time when they were printed, and, in addition thereto, all publications of the Executive Departments, bureaus,

and offices of the Government issued during the two fiscal years July 1, 1903, to June 30, 1905.

It would be too much to expect that any ordinary reader would realize that under the name "Documents and Reports of Congress," which is the official title of the sheep set, would be found such a wide variety of articles as is the case, many of them of permanent value, others of current interest to general readers, and many of great value for the specialists in a large variety of lines. It is with a view to rendering such papers accessible that the Superintendent of Documents is issuing the various sorts of information already referred to.

THE WHITE HOUSE.

The documents which emanate from the White House are in the nature of things chiefly concerned with matters directly connected with the President and his official activities. It is not unusual, however, to find that such papers contain data of interest from the standpoint of the subject of Home Economics. For instance, the messages of the President to Congress often include matter of value regarding questions affecting the home life of every family.

DEPARTMENT OF JUSTICE AND THE POST-OFFICE DEPARTMENT.

The Department of Justice and the Post-Office Department issue many documents but they are in the main concerned with the specific work of these Departments and with topics of interest to students of history, law, and other such subjects, rather than to students of Home Economics. The Department of Justice has, however, in recent years devoted much time to questions concerned with the national pure food law and its application. The opinions and decisions of the Attorney-General on such topics are matters which interest the consumer of food products as well as the manufacturer and distributor.

DEPARTMENT OF AGRICULTURE.

The other branches of the General Government are those whose work is more likely to be of interest to students of Home Economics, and in the nature of things the Department of Agriculture is perhaps first in the list as it is concerned with the production, protection, and distribution of food products, both

animal and vegetable, with fibers, with timber, and in general, with the raw materials and many commercial products which pertain to the home and its problems. Furthermore, the Department of Agriculture has important educational functions and is the center of the experiment station movement, a movement of the greatest importance in accumulating data and in bringing the results of scientific investigation and experiment directly to the person who needs them.

The main Divisions of the Department of Agriculture are the Office of the Secretary, the Weather Bureau, the Bureau of Plant Industry, the Bureau of Animal Industry, the Office of Experiment Stations, the Forest Service, the Bureau of Entomology, the Bureau of Chemistry, the Bureau of Soils, the Bureau of Biological Survey, the Office of Public Roads, the Bureau of Statistics, and the Division of Publications.

The Library of the Department should also be mentioned as it is of the greatest importance to the experimental and other work of the various bureaus. All of the bureaus and other main subdivisions of the Department of Agriculture issue publications which are of interest to students of Home Economics.

A list of titles which the Superintendent of Documents has published of Department of Agriculture publications now obtainable by purchase, arranged by bureaus, is well worth reading and doubtless it would surprise even those who are tolerably familiar with the scientific work carried on under Government auspices to see how many papers of interest on chemistry, forestry, plant production, the inspection of food materials, the nutrition of man, the feeding of animals, food legislation, statistics of agricultural products of all sorts, and papers on insects, birds, mammals, and other topics are being issued by this Department.

Much more extensive is the list of publications of the Department of Agriculture (1862–1902) with an analytical index which was published by the Superintendent of Documents, which is a book of 623 pages. Entries are arranged by bureaus and also alphabetically by title and author. Library classification numbers are given and the volume as a whole serves as a check list of Department of Agriculture publications for the period included.

It is perhaps true that as sources of information on historical, statistical and descriptive lines Government documents would prove equally useful for students of Domestic Science and Do-

mestic Art, the two main branches of the general subject of Home Economics, but whether or not this is literally the case, it is certainly true that the amount of data available on both subjects is very large. In the case of specific information it seems certain that more is available on the subject of food and other Domestic Science subjects than is the case with those which pertain to Domestic Art, and this is due in large measure to the fact that the chemistry of food and related subjects has been for so many years one of the principal lines of activity of the Bureau of Chemistry, and to the studies of human nutrition have been systematically undertaken for many years by the Office of Experiment Stations.

In the Office of Experiment Stations bulletins which have been published in connection with the nutrition investigations are naturally first in interest to students of nutrition. These include the technical reports of investigations as well as popular summaries based on the work. There are about 60 technical bulletins and 50 popular publications, most of which are still available. The technical bulletins may be purchased through the Superintendent of Documents as the small edition provided for distribution by the Department of Agriculture has in many cases been exhausted. The popular summaries of nutrition subjects have appeared in what are termed Farmers' Bulletins, and also as reprints, separates and circulars, and in so far as they are available are distributed gratuitously. As is the case with other series of publications of the Office of Experiment Stations, lists of nutrition bulletins are published for free distribution, which give short summaries of their contents, the price and method of distribution, as well as bibliographical data. The Superintendent of Documents has also published a list of Government documents dealing with food which includes the titles of the Office of Experiment Stations nutrition publications and others. The bulletins of the Agricultural Education Division of the Office and of the Farmers' Institute Division are of interest from the standpoint of pedagogics and general educational subjects, while the bulletins of the Divisions of Irrigation and Drainage supply data on a variety of topics concerned with the conservation of water and its use for agricultural purposes in both arid and humid regions.

The Office of Experiment Stations nutrition publications represent the results of the experimentation and collection of

general data carried on under the nutrition investigations first authorized by Congress in 1894. At its inception this work was assigned to the Office of Experiment Stations under the direction of Professor W. O. Atwater and for a time naturally centered at Middletown, Conn., where Professor Atwater was head of the Chemical Department of Wesleyan University. For ten years or more, cooperation with agricultural experiment stations, agricultural colleges, philanthropic organizations and other institutions was an important feature of the work and notably increased the total output. The investigations are now centered in Washington where adequate quarters have been provided in the new Department of Agriculture Building and the respiration calorimeter which was in Middletown, Conn., has been rebuilt with a number of important improvements.

The nutrition investigations have included studies of experimental methods, the development and operation of the bomb calorimeter, the development and operation of the respiration calorimeter, studies of the composition and relative nutritive value of different foods, dietary studies with individuals and groups living under a variety of circumstances, digestion experiments with different food materials and food combinations, studies of factors which affect digestion, experiments on the metabolism of nitrogen, and on the balance of income and outgo of matter and energy; studies of the changes and losses due to different cooking processes, particularly with reference to meat and some vegetables, special studies of the nutritive value and digestibility of bread of different kinds and of other cereal foods, special studies of the digestibility and nutritive value of cheese and of fruits and nuts, studies of food supplies of different localities, the effects of muscular work of different kinds and varying intensity on metabolism, the effects of mental work on metabolism, studies of iron and other ash constituents of food, and the place of ash constituents in the diet and studies of institution dietetics and household problems.

The technical nutrition bulletins report the results of these investigations. Titles selected as typical of these publications follow: The Composition of American Food Materials; Dietary Studies at the University of Tennessee; Description of the Respiration Calorimeter and Experiments on the Conservation of Energy in the Human Body; Report on the Digestibility and

Nutritive Value of Meat; Iron in Food and Its Functions in Nutrition; Studies of the Effects of Different Methods of Cooking Starch; and The Influence of Muscular and Mental Work on Metabolism.

The general summaries which have been based on the investigations and the data collected in connection with them have been published very largely in the Farmers' Bulletins though sometimes in circulars and sometimes as reprints from the annual reports of the Office of Experiment Stations, the Yearbooks of the Department of Agriculture, and similar sources. These popular publications discuss such subjects as meat, milk, fish, eggs, fruit, vegetables, sugar, cereal foods, nuts, the general theories and problems of nutrition, conveniences for the home and similar topics.

It is perhaps not too much to say that the nutrition investigations of the Office of Experiment Stations, both in the extent and variety of the problems studied and in the results which have been obtained, represent the largest organized enterprise in this or in any other country for the specific purpose of studying such questions. The data here presented show that the bulletins and other published material issued as a result of this enterprise are numerous and include a wide variety of topics. Owing to the scarcity of general text and reference books on nutrition subjects, the nutrition publications of the Office of Experiment Stations have been widely used in schools, colleges, medical schools, etc., to take their place. Furthermore, even a casual examination of journals and books which are published on these subjects will show that they have been freely quoted by writers on nutrition topics in the United States and other countries.

A publication of the Office of Experiment Stations which should be consulted regularly by all teachers of Home Economics is the Experiment Station Record, a monthly abstract journal which summarizes the publications of the agricultural experiment stations, and in addition, reviews the scientific literature published in all countries which would be of interest to the investigators in the agricultural colleges and experiment stations. The abstracts are classified under the following divisions: Agricultural Chemistry, Foods—Human Nutrition, Animal Production, Dairy Farming—Dairying—Agrotechny, Meteorology—Water, Soils—Fertilizers, Agricultural Botany, Field Crops,

Horticulture, Forestry, Diseases of Plants, Economic Zoology—Entomology, Veterinary Medicine, Rural Engineering, Rural Economics, Agricultural Education, and some miscellaneous topics. In addition to the abstracts, the Experiment Station Record contains editorial discussions of scientific, educational, and other topics, and personal and other notes of interest to experiment station workers. Owing to a limited edition the Experiment Station Record is sent free to few individuals other than college and station workers, unless there is some special reason for it. It is distributed quite generally to libraries where it may of course be consulted by students. However, as is the case with most Government documents, the Experiment Station Record may be purchased for a sum designed simply to cover the cost of publication, in this case at present $1.50 a year. The first number of the Record appeared in September, 1889, and it is now closing (1909) its 20th volume. Each volume includes detailed indexes and a general index has been published of volumes 1 to 12. A set of the Experiment Station Record constitutes in itself a very valuable reference library.

It has been the policy of the Office of Experiment Stations to issue lists of the publications of its different divisions and to keep these lists up to date. Thus, a list of the nutrition publications of the Office has appeared at frequent intervals, as have also lists of the publications of the Division of Irrigation and Drainage, of Farmers' Institutes, and of Agricultural Education.

The Farmers' Bulletins, a series of publications intended for free distribution, which originated in the Office of Experiment Stations, and has become a general series of the Department of Agriculture, are of great importance and value since they are designed to summarize in non-technical form the results of investigations on all topics concerned with the general subject of agriculture. Of these bulletins over 350 have appeared to date. The Farmers' Bulletins which deal with food and nutrition have already been mentioned. Others of special interest to students of Home Economics are those dealing with insect pests, with weeds, with the cultivation of vegetables and flowers, and other gardening topics, the use of alcohol for fuel, flax and other fibers, forest planting and farm management, and so on.

Included in the series of Farmers' Bulletins is the sub-series entitled "Experiment Station Work," each number of which

contains 10 or 12 summaries of recently published articles chiefly those of the agricultural experiment stations. Food and nutrition topics, house construction and home betterment, the cultivation of farm and garden crops, water supply for farms and homes, and many other similar questions are included among the topics discussed.

Lists and indexes of the Farmers' Bulletins have been published and these as well as the bulletins themselves may be secured on request from the Division of Publications of the Department of Agriculture or from Members of Congress.

The publications of the agricultural experiment stations are in a sense Government documents, as the institutions which issue them were established in each State and Territory by the General Government and receive funds from the General Government for their support. They are not Government documents, however, in the same sense as the publications already referred to, since they are published and sent out locally, though under franking privilege, while the Government documents, as the term is ordinarily used, almost without exception bear the imprint of the Government Printing Office in Washington. With respect to experiment station publications, there are a few exceptions in the method of publication. Thus, the publications of the Alaska, Porto Rico, and Hawaii Agricultural Experiment Stations are under the law issued as regular Government documents from the Office of Experiment Stations.

It is almost needless to say that the publications of the agricultural experiment stations contain an enormous amount of data on food and nutrition, food inspection, physiology, hygiene, dairying, the production, inspection and marketing of farm crops, fruits, poultry and meat products, and on many other topics pertaining to sanitation, construction of buildings, maintaining forests, and the destruction of insect and animal pests. Of special interest are the numerous publications of the Connecticut (Storrs) Experiment Station which contain papers by Professor W. O. Atwater and his associates on human nutrition, and which are valuable not only for their subject-matter but also for their relation to the development of this subject in the United States. The Office of Experiment Stations issues a monthly list of titles of experiment station publications and in the Experiment Station Record, as already stated, reviews all the publications as

issued. A general list of experiment station publications and of Office of Experiment Station documents, complete to date, was included in a bulletin of the Office of Experiment Stations entitled The Agricultural Experiment Stations of the United States which was published in 1900, and was also issued as a separate. The experiment station publications are distributed on request by the station directors, preference being given to residents of the State in which a particular station is located, and with the exception of the Alaska, Hawaii, and Porto Rico publications are not distributed by the General Government.

Index cards prepared by the Department of Agriculture Library and issued by the Library of Congress give titles and other bibliographical data of publications, as they are acquired, while the index cards issued by the Office of Experiment Stations give brief notes concerning practically all the work pubilshed by the agricultural experiment stations. Both the Library cards and the Office of Experiment Station cards (which are sold for a low price) are classified and the cards for each class may be purchased separately. The Library of Congress Bulletin of Card Distribution Section gives full data regarding the Library cards. Those of the Office of Experiment Stations are fully described in a circular of the Office. In the case of the Office of Experiment Stations set, students of nutrition often order those cards which have to do with food and nutrition of man, agricultural chemistry, dairying, and animal production, and occasionally horticulture and field crops.

For many years the Bureau of Chemistry has been studying problems concerned with the composition of food materials, with the production of sugar and other food products, with the elaboration and perfection of methods pertaining to the examination and analysis of foods and other agricultural materials and with other important problems.

The Association of Official Agricultural Chemists has since its organization been particularly concerned with devising, testing, and comparing methods for the analysis of foods and other agricultural materials. The proceedings of the organization have appeared as publications of the Bureau of Chemistry and it is not too much to say that this Bureau has been a factor second to none in these investigations of standard analytical methods. The Home Economics student who takes up chemical work in

any of the lines relating to his subject is dependent in large measure upon the work of the Bureau of Chemistry for his laboratory methods and other information, and will find the material which he seeks in many other bulletins of the Bureau as well as those which contain the proceedings of the Association of Official Agricultural Chemists. The passage of the National Pure Food Law has added very largely to the work of the Bureau of Chemistry, both from the standpoint of investigation and inspection. Of the recent investigations of the Bureau may be mentioned the studies of the effects of the various commercial preservatives on general metabolism and health, and the studies of the effects of cold storage on meat, poultry, and other food products. As illustrations of the wide scope of the work of this Bureau, the following titles of publications of interest to students of Home Economics may be noted: Tea, Coffee, and Cocoa Preparations; Extent and Character of Food and Drug Adulteration; Compilations of Food and Drug Laws; Chemical Analysis and Composition of American Honeys; Studies of Apples and numerous other studies of the chemical changes which accompany the ripening and storage of fruits; Meat Extracts and Similar Preparations; Some Forms of Food Adulteration and Simple Methods for Their Detection; and Official and Provisional Methods of the Association of Official Agricultural Chemists.

The work of the Bureau of Animal Industry is very varied, including investigation and experiments in biological chemistry, dairying, animal feeding and other subjects, as well as a large amount of inspection work concerned with meat and meat products designed for domestic and foreign trade. There is perhaps no division of this Bureau which does not at some time publish work of interest to the student of Home Economics. As indications of the activities of the Bureau, the following publications may be cited: Dairy Schools: Information Concerning the Angora Goat [and Mohair Wool]; Investigations on the Manufacture and Curing of Cheese; The Available Energy of Red Clover Hay [Experiments with the Respiration Calorimeter]; The Federal Meat Inspection Service and Varieties of Cheese.

In general, it may be said that the Bureau of Plant Industry is concerned with the study of problems pertaining to the production and protection of plant crops and to the economic management of farm problems, particularly as related to the production

of plant products, and with other problems which have to do fundamentally with plant life in its relation to agriculture. The list of publications which interest students of Home Economics is a long one, including as it does botanical studies of a great variety of plants, studies of cotton, flax, and other fiber plants, of the cultivation of farm and garden crops and the combating of plant diseases and other questions. An idea of the work of this Bureau as it interests the Home Economics movement may be gained from the following titles: The Commercial Status of Durum Wheat; Wild Rice—Its Uses and Propagation; The Avocado—A Salad Fruit from the Tropics; Tuna [Cactus Fruit] as Food for Man; The Mulberry and Other Silk Worm Food Plants; and The Cold Storage of Small Fruits. Like most of the other bureaus, the Bureau of Plant Industry has prepared lists of its publications.

The Bureau of Soils is engaged in soil surveys of the United States and in physical and chemical investigations of the nature of soils with special reference to agricultural problems. Whenever questions of the nature and character of agricultural soils arise, the student should consult the records of the work of this Bureau.

The Forest Service has developed very greatly in the extent and importance of its work in the last 10 or 12 years. This Bureau, in addition to its important work in connection with the national forests, is engaged in studying problems connected with the growth and protection of forest trees, with the preservation and utilization of wood, the maintenance of forests, and other questions. Whenever a topic arises which concerns the general question of the management of trees, the production of lumber, the relative value of different sorts of timber for house construction, or other purposes, the bulletins and other publications of the Forest Service should be consulted.

The publications of the Weather Bureau are in the main technical and of interest chiefly to meteorologists and those interested in other questions of physical geography. It not infrequently happens, however, that some special question is considered which pertains to subjects included in Home Economics. For instance, a paper was published some years ago on the influence of high altitude, that is, diminished atmospheric pressure, upon cooking processes.

The Bureau of Statistics,as its name implies,is chiefly concerned with collecting and digesting statistical data relating to agriculture and agricultural products, and from its publications much which is of value to the Home Economics student may be secured. The Crop Reporter, a periodical publication of this Division, gives current information of a statistical nature. From time to time, the Bureau publishes bulletins on special topics which the student of Home Economics will find useful, as for instance, Meat Supply and Surplus with Consideration of Consumption and Export, which is an exhaustive summary of data regarding meat consumption, the meat trade and similar topics.

The Bureau of Entomology as a part of its work has studied insect pests and methods of destroying them. The work which has to do with flies and other household insects is of particular interest to students of home problems but there is a great amount of other work to which attention should also be directed; for instance, the studies of insects injurious to farm and garden crops.

The Bureau of Biological Survey is investigating problems which pertain to the distribution of animal life in the United States and the life history of birds and mammals in order that useful species may be protected and those which are harmful destroyed or kept within bonds.

The Division of Publications exercises editorial functions and supervises the publication and distribution of the bulletins and other documents of the Department of Agriculture. The Yearbook of the Department, to which all the bureaus and other divisions contribute, is edited and published by the Division of Publications. The Yearbook is published for general distribution and is designed to give in popular form summaries of agricultural topics and reports of progress along agricultural lines. It may be obtained through members of Congress. An Index for the Yearbook has been issued recently. Numerous indexes of Department publications have been issued by the Division of Publications which should be consulted by the student of Home Economics; for instance, the Index of Farmers' Bulletins Nos. 1 to 250, which was published as Bulletin 8 of the Division of Publications. Mention should also be made of Division of Publication Circular 2 which contains a list of publications for free distribution. Other important indexes are the

Index to Literature Relating to Animal Industry in the Publications of the Department of Agriculture, 1837–1898, leaflets giving lists of Farmers' Bulletins and other publications. The division of Publications also issues a Monthly List of Publications giving titles of current bulletins, circulars, etc., issued by the Department. This list is sent free to all who request it and should be in the hands of every student of Home Economics as it affords a ready means of keeping track of the Department of Agriculture publications.

STATE, WAR, AND NAVY DEPARTMENTS.

For many years the State Department published the Consular and Trade Reports but as noted elsewhere, this is now done by the Department of Commerce and Labor, the change having been made in 1903. The material which appears in these reports, however, is collected and put in shape for publication by the Bureau of Trade Relations of the State Department. As compared with the other executive branches of the Government, the State Department has issued few publications and the bulk of them, as would be expected, deal with treaties and other questions of national and international policy.

The War Department has published many bulletins and reports dealing with army rations, equipment of troops and similar topics, and has also studied matters of more special interest to Home Economics students. For instance, the tests of specially constructed fireless cookers suited to army use described in the reports of the Commissary-General, the accounts of the work of the schools for army cooks, discussions of diet in tropical regions, and other similar material may be mentioned. The Manual of the Subsistence Department United States Army, recently published by the Office of the Commissary-General, is an example of another kind of publication dealing with food problems. This takes up subsistence stores, ration issue, kitchen cars for army use, and related questions.

The Library of the Surgeon-General's Office of the War Department contains one of the most complete collections of medical literature in the United States, and indeed in the world. On its shelves may be found the bulk of the medical journals and reference works of all countries, as well as special publications dealing with sanitation, hygiene, nutrition and related ques-

tions. The Index Catalogue of the Library of the Surgeon-General's Office is one of the most valuable of reference works and may be consulted in most large libraries. This Catalogue comprising to date some 29 volumes, contains both subjects and author entries not only of books and pamphlets, but also of many articles in periodicals, publications of learned societies, etc. The student who has in hand a subject for special study or investigation will always do well to consult these volumes with a good chance of finding something which pertains to the question in which he is interested.

The statements which have been made regarding the work of the War Department in its relation to food and nutrition may also be applied to the Navy Department. The proper feeding of the naval forces and the provisioning of ships are very important problems and the numerous publications dealing with rations for the Navy and related matters are of interest not only in themselves, but also as a contribution to the general question of food requirements and dietary standards. Cookbooks suited to the special needs of army and navy cooks have been issued by both the War and the Navy Department. A recent mess book, designed for cooks in the Navy, gives a large number of recipes in quantities suitable for 100 men. Not infrequently the publications of the Navy Department contain useful information on some special food topic. As an instance may be cited an account published in Memoranda for the Information of Officers of the Pay Corps, Commanding Officers of Ships and Commandants of Stations, 1908, No. 85, of tests of evaporated eggs, milk and vegetables. Investigations in hygiene carried on by both the War Department and the Navy Department are of general interest as are the investigations which concern materials used for clothing and for other purposes.

DEPARTMENT OF THE INTERIOR.

The Department of the Interior includes a number of bureaus or other sub-divisions which issue publications of interest to Home Economics students.

The Patent Office, one of its important divisions, prepares printed specifications of patents which it has granted but these though sold under certain conditions, are not designed for general distribution. It is often possible, however, to consult

such publications and they frequently afford reliable information regarding some manufactured product or the machinery used in its manufacture which would be difficult to obtain except from this source or from The Official Gazette which is issued monthly by the Patent Office and contains condensed descriptions of all patents issued, trade-marks licensed, etc.

For many years what is now the Department of Agriculture was a part of the Department of the Interior, and the earlier work of the Department of Agriculture appears in Patent Office Reports.

The Geological Survey and the Reclamation Service, which are important subdivisions of the Department of the Interior, have published a very large number of important bulletins and reports dealing with mineral resources of the United States, engineering problems, and other topics included in these fields of activity. Of special interest to students of Home Economics are the publications which deal with coal, fuel tests, minerals and metals, water supplies, marble, granite, and other building materials and similar questions.

The Bureau of Education of the Department of the Interior was established to collect and distribute information regarding educational questions in the United States and its publications are of great value to educators and students. In many of them statistics and other information can be obtained regarding the Home Economics movement in the United States and other data which it would not be possible to obtain elsewhere. The Daily Meals of School Children by Caroline L. Hunt which appeared in Bureau of Education Bulletin 1909, No. 3 may be mentioned.

The Office of Indian Affairs of the Department of the Interior supervises affairs connected with the American Indians, and a document issued by this Office which is of special interest in this discussion is Teaching the Rudiments of Cooking in the Class Room: Primary Methods and Outlines for the Use of Teachers in Indian Schools, which appeared in 1906.

DEPARTMENT OF COMMERCE AND LABOR.

The publications of the Census Office, which is one of the principal sub-divisions of the Department of Commerce and Labor, contain a very great amount of data often difficult to obtain elsewhere regarding processes of manufacture, the

character of the manufactured products, the growth and distribution of industries, and on similar topics, in addition to strictly statistical matter. As illustrations of valuable special papers issued by the Census Office may be mentioned articles, which appeared in a volume[a] published in 1908, on textiles, cotton manufactured products, wool manufacturers, silk manufactured products, buttons, oil cloth and linoleum, butter, cheese, and condensed milk, flour and grist mill products, canning and preserving, rice cleaning and polishing, slaughtering and meat packing, cotton-seed products, lumber and timber products, and so on. Some of these articles, for instance that on canning and preserving, include an historical and descriptive section which is of decided interest, or a section on the description and use of the products as in the case of the article on cotton-seed. Not all volumes of these Census Office reports would prove of equal interest to students of Home Economics but whenever a question arises connected with foods, textiles, or other commercial products on which information is desired, it is well worth while to look in the Census publications for it is more than likely that they will supply information which it would be difficult to find elsewhere.

The Bureau of Statistics of Labor of the Department of Commerce and Labor has studied a great variety of problems relating to food supply, the cost of living, the distribution and expenditure of incomes, and other related topics, and the publications of this Bureau should always be consulted by a student or investigator who is interested in such problems.

The Bureau of Statistics of Labor was established a number of years before the Department of Commerce and Labor of which it is now a part. Cooperating with this Bureau, Professor Atwater (1888–1892) carried on dietary studies of factory operatives and other families in different localities and the nutrition investigations of the Department of Agriculture, may in a way, be looked upon as an outgrowth of this work and that which was undertaken for the Smithsonian Institution (see p. 249) and Fish Commission.

The Fish Commission is now a part of the Department of Commerce and Labor. Many of its publications are of particular

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a Special Reports of the Census Office—Manufactures, pt. 3. Selected Industries, 1905

interest. It may be noted that Professor Atwater's studies of the composition of food fishes and marine invertebrates, were undertaken in part under the auspices of the Fish Commission. Numerous publications of this Commission contain statistical and other data regarding food fishes and fishing industries. From time to time other subjects are included. As an illustration may be mentioned a report on marine algae and their possible value as food products, for making glue, and for other purposes.

The Daily and Monthly Consular and Trade Reports formerly issued by the State Department but now by the Bureau of Manufactures of the Department of Commerce and Labor, contain much matter of interest in connection with the lines of work now under consideration. These publications are made up of short summaries, usually on current topics submitted by U. S. Consuls and Consular Agents. To cite a few articles at random, mention may be made of Food in Asiatic Turkey, Japanese Labor—Comparative Efficiency, and of Water Aspirators for Homes —Simple Devices for Cleaning.

The Bureau of Standards, which is also a part of the Department of Commerce and Labor, carries on important research work in chemistry and physics in addition to its standardization of scientific instruments and other work which naturally pertains to a bureau of this character. The reports of the scientific investigations referred to appear in the Bulletin of the Bureau of Standards which is issued as a periodical, and in other Bureau publications.

THE TREASURY DEPARTMENT.

The greater part of the work of the Treasury Department is concerned with the financial questions of the United States, the customs service, the auditing of accounts of the different departments, and related matters. The attention of students of Home Economics is especially directed to the work of the Supervising Architect's Office, the work of the Office of the Commissioner of Internal Revenue, and the work of the Bureau of Public Health and Marine Hospital Service. In connection with the Internal Revenue work, much has been published regarding the legal status of foods and beverages. Such publications as the Gaugers' Manual include tabular matter of interest to analysts.

The following titles may serve to illustrate the importance of publications issued by the Public Health and Marine Hospital Service of the United States and the Hygienic Laboratory which is a part of this Bureau: Milk in Its Relations to Public Health; The Thermal Death Point of Pathogenic Micro-organisms in Milk; Disinfection Against Mosquitoes; and Pellagra, A Precis, which discusses this disease attributed to eating spoiled Indian corn.

CONGRESSIONAL DOCUMENTS.

The Library of Congress has one of the most important collections of books, periodicals, and documents in the world. Those who have the opportunity can freely consult its great collections in the public reading room. As a part of its work the Library of Congress publishes entry cards of all material which it receives which give title, author, and other bibliographical data. These cards are classified and sold in sections. By the purchase of sections which deal with food and nutrition, textile fabrics, and other Home Economics topics, it is possible to secure much valuable information regarding sources of information. Catalogue cards prepared by the Bureau of Education, Geological Survey, and Department of Agriculture are also published and are for sale by the Library of Congress. They cover publications of the Geological Survey and articles and reports of the Bureau of Education, as well as other publications received at these libraries. The subject headings on these Library of Congress cards are of use in determining the character of the publications more definitely than by title alone.

The publications of the National Academy of Science appear as Senate Documents and some of them are valuable to students of Home Economics. Mention may be made of the paper on bacteriological examination of the soil, and on that dealing with respiration calorimeter experiments by Atwater and Benedict.

Special reports of committees, commissions, and other bodies are often issued as Government documents, the source of publication varying with the nature of the inquiry and other circumstances. Thus, the report on the occurrence and spread of typhoid fever during the Spanish War, which contains a great deal of value in relation to home hygiene, the dangers from flies and dust in relation to disease, and similar topics were published as a

report by the War Department. The recent reports of the President's Home Commission appeared as a Senate Document of the 60th Congress, 2d Session. This contains data on industrial hygiene and social betterment. Special subjects included in the latter section are alimentation and foods, good food at reasonable cost, food and home betterment, sociological studies of 1,251 subjects, the business relation of wage earners to the scale of wages and cost of living, as well as other articles which might be mentioned.

The Report of the Country Life Commission which appeared also as a Senate Document, is a publication of special interest as it summarizes the results of the work of this Commission regarding life in rural regions and the improvement of conditions where this is needed.

It is difficult even for those who have unusual facilities for knowing about such matters to keep track of Government documents of this class since oftentimes the title does not give information as to the contents of the publication. In so far as possible, articles which have to do with food or other Home Economics topics which appear in such publications, are usually included among those noted in the Experiment Station Record.

INDEPENDENT AND MISCELLANEOUS INSTITUTIONS AND COMMISSIONS.

In addition to the Government Divisions which have been mentioned, there are a number of commissions, etc., which are classed in the Congressional Directory as "Independent and Miscellaneous." Of these the Government Printing Office and one of its main divisions, the Office of the Superintendent of Documents, have already been mentioned. The Smithsonian Institution, the Commission of the Philippine Islands, the International Bureau of American Republics, and the Civil Service Commission should also be noted in this discussion of Government documents and their use.

The Smithsonian Institution with its subdivisions, notably the National Museum and the Bureau of American Ethnology, is interested in so many lines of work that a great variety of topics have been included in its publications. Many of these articles are of great value and importance. Of Smithsonian Institution publications of special interest to students of Home Economics

may be mentioned: The Select Bibliographies of Chemistry; Oils, Mediums and Varnishes Used in the Painting of Pictures; Order of Development of the Primal Shaping Arts; The Atmosphere in Relation to Human Life and Health; and many papers on insects, birds, mammals, etc.

The following will serve as examples of National Museum publications which are of interest in connection with Home Economics: Prehistoric Art; Preparation of Microscopical Mounts of Vegetable Textile Fibers; Primitive Travel and Transportation; Wokas, a Primitive Food of the Klamath Indians; and numerous papers on collecting and preserving specimens of various sorts.

From the publications of the Bureau of Ethnology the following titles have been selected: A Study of Textile Art in Its Relation to the Development of Form and Ornament; Prehistoric Textile Art of the Eastern United States; Origin and Development of Form and Ornament in Ceramic Art and The Wild Rice Gatherers of the Upper Lakes, A Study in American Primitive Economics.

The Smithsonian Institution, the National Museum and the Bureau of American Ethnology all issue lists of their publications.

It is of interest to note in this connection that Professor Atwater's earlier studies of nutrition, undertaken before the establishment of the nutrition enterprise in the Office of Experiment Stations, were carried on in part for the National Museum. A notable piece of work was that which had to do with the composition of food materials, particularly food fishes. He also arranged illustrative material for the Museum relating to human food and assisted in the classification of material pertaining to this subject.

The Civil Service Commission has charge of the examinations and other similar matters pertaining to appointments under the Government Classified Service. As many students of Home Economics and related lines of work have such positions in mind, the publications of the Civil Service Commission are naturally of use to them.

The International Bureau of American Republics publishes a monthly bulletin which contains articles on plant products, industrial development, municipal organization, geographical, statistical, and many other articles concerning the republics of

North, South and Central America. An index to the monthly bulletin is issued regularly.

In the above enumeration and discussion of Government documents of use to students of Home Economics no attempt has been made to include everything which could be mentioned. The purpose has rather been to present enough data to demonstrate the fact that this class of publications has contributed much that is fundamental to the question of Home Economics from the standpoint of scientific data, historical and other general matter and pedagogical methods. Many works of reference and many scientific journals which are concerned with Home Economics are not infrequently difficult of access to the student in institutions of learning as university librarians in the past have not generally appreciated their importance and so have not endeavored specially to collect them. From this standpoint the Government documents have an added value since they are accessible in most university libraries and copies can often be obtained for school and class room use in addition to those in the Library.

In this discussion nothing has been said about the publications of the several States which are also Government documents in the sense that they are issued under State auspices. The reports of boards of health and State dairy and food commissions, State departments of agriculture, statistics and education, of charitable reformatory and penal institutions, and so on, which have been printed and distributed under State auspices afford a large amount of information which is of interest to students of Home Economics. This class of literature is indeed so extensive and varied that it deserves discussion by itself, and the same may be said of the publications of municipalities which include among other documents, reports of city boards of health, superintendents of public institutions, supervision work connected with the manufacture of food and other products, and documents dealing with a variety of other fields of activity.

Librarians of university libraries, particularly those connected with agricultural colleges and experiment stations, and of public libraries are every year recognizing more fully the importance of Government documents and the vast amount of information which they supply on scientific, statistical, historical and other topics, as well as on the activities of the various

branches into which the Government is divided. Students in Home Economics Departments who make use of their reference catalogues will find it well worth while to learn something of the general classifications of Government documents and the character of the publications issued by the different departments, bureaus, etc. It is suggested that it would be well worth while for a group of students, preferably from the most advanced classes in the Home Economics Department, to take up as a part of their regular work the study of this question. Such work is greatly facilitated by the use of the Monthly Catalogue of the Superintendent of Documents, the Monthly List of Experiment Station Publications, the Monthly List of Department Publications, the Experiment Station Record and Experiment Station Work. By enlisting the cooperation of the librarian of their institution it should be possible to make an arrangement by which all Government documents received by the library may be examined. The students engaged in this work could prepare for class room use, lists of references to articles which in their judgment are of interest in connection with the Home Economics work. Such a plan is valuable not only for the information it will supply, but also for the training it will afford in the handling of literary material. It has been said that a university education is a success if it accomplishes two things, namely, if it teaches a student to read and to think. Any plan therefore, is to be advocated which will help students to use their libraries as mines from which information can be obtained in quantities proportional to the work involved, and not simply as places in which books suggested by an instructor may be consulted.

FREE OR INEXPENSIVE PAMPHLET LITERATURE.

M. BIRDSEYE.

The following is a list of literature, in leaflet or pamphlet form, recently collected and exhibited by the Press and Literature Committee of the Greater New York Home Economics Association, as likely to be of value to teachers of Home Economics in schools and settlements, and to others interested in the subject. U. S. Government publications are not included in this special list, nor is reference made to experiment station publications, though many bulletins from both sources are distributed free of cost.

Teachers will do well to secure at least a sample of each of the publications noted, for not only do they contain many suggestions which may be incorporated to advantage in an up-to-date course, but they serve to open one's eyes in a most instructive way to the number and variety of channels—public, private, philanthropic, and even commercial—through which information regarding the economics of the home and of the municipality is being literally poured upon the public.

Unless price is explicitly stated, this literature may be had free of charge by applying to the publisher. The list is as follows:

List of Free or Inexpensive Publications.

"Sanitary Code of the Board of Health," New York City, 1908.

"Various Publications on Subject of Tuberculosis." Board of Health, New York City.

"Food and Drug Adulteration—Their Medical and Legal Significance," by Dr. Darlington, New York Health Commissioner, 1908.

"Methods of Dealing with the Milk Supply of New York City," by Dr. Darlington.

"Duty of the Municipality and State in the Prevention of Tuberculosis," by Dr. Darlington, New York City Board of Health, 1906.

"Bureau of Municipal Research Leaflets," New York City. Various topics of interest to citizens and tax-payers.

"Health Hints Leaflets," published by People's University Extension Society, 105 E. 17th St., New York City (English, Jewish, Italian).

"Large Meals for Little Money," by Florence Kendrick Johnson, published by People's University Extension Society, 105 E. 17th St., New York City. (Six cents for settlement classes covers postage).

"Help to Self Help." Report of one year's work of People's University Extension Society, New York City, 1908.

"Approved Methods for Home-Laundering," by Mary Beals Vail. Published by Proctor and Gamble Co., Cincinnati, Ohio.

"From Cellar to Garret." A text book on Household Science. (Contributions from various Domestic Science Teachers). Published by Carbona Products Co., Newark, N. J. 10 cents.

"Individual Recipes in Use at Drexel Institute." Published by John C. Winston Co., Philadelphia, Pa. 25 cents.

"Cornell Reading Courses for Farmers' Wives." Bulletins published by N. Y. State College of Agriculture, Ithaca, N. Y.

Consumers' League Literature. Published by Consumers' League, 105 E. 22d St., New York.

Sanitary "Maxims," in folder or calendar form (English, Italian and Jewish).

"White List of Retail Stores" (pocket folder).

"Suggestions to Canners."

"Circular letter to grocers, etc."

"Score card for Provision Shops."

"The Sweatshop, where tuberculosis breeds."

Consumers' League "Catechism."

Annual Reports.

"Historical Sketch of Pioneer Consumers' League. Five cents.

"The Tenants' Manual." Published by Greenwich House, New York City.

Boston Health Education League Booklets. Published by Health-Education League, 113 Devonshire Street, Boston. Price 2–5 cents each; reduced rates by the hundred.

"Hints for Health in Hot Weather."

"Milk," by Charles Harrington, M.D.

"Colds and their prevention."

"Meat and Drink." By Ellen H. Richards.

"Healthful Homes."

"The Successful Woman." By William R. Woodbury, M.D.

"The Boy and the Cigarette." By H. Sterling Pomeroy, A.M., M.D.

"The Plague of Mosquitoes and Flies."

"Tonics and Stimulants." By Ellen H. Richards.

"The Care of Little Children." By R. W. Hastings, A. M., M.D.

"Emergencies." By Marshall H. Bailey, M.D.

"Microbes Good and Bad." By Anne F. Rogers.

"The Care of Babies." By Gaetano Praino, M.D.

"The Efficient Worker." By Ellen H. Richards.

"Sexual Hygiene." By An Experienced Physician.

AN AMERICAN CONTRIBUTION TO THE HISTORY OF THE PHYSIOLOGY OF DIGESTION*.

Reviewed by ELLEN A. HUNTINGTON,
Professor Elect University of Utah.

Professor Mendel's recent article which forms the basis of this review was excited through the reading of an American monograph, written in 1803, for a doctor's thesis at the University of Pennsylvania Medical College by John R. Young of Maryland and entitled An Experimental Inquiry into the Principles of Nutrition and the Digestive Processes.

Professor Mendel commends Dr. Young's work because "in examining the knowledge of digestion then current, he applies the test of experimental evidence obtained at first hand,—a sort of critique less in vogue in his day than in ours."

Professor Mendel then proceeds to review the history of the physiology of digestion which he divides into three periods. The first of these covers the earlier days of science until the publication of Hallers' Elementia Physiologiae (1757) when the triumph of "Animal Spirits" and various conceptions of "vital principles" persisted. Into the second period he put Réaumur (1752), Stevens (1777) and Spallanzani (1783) who were putting into practice the method of observation, rather than "obscure ideas" as the basis of their theories of digestion.

The point of view of the men of this period is expressed in the remarks of William Hunter:

"Some physiologists will have it, that the stomach is a mill, others, that it is a fermenting vat, others, again that it is a stew pan; but, in my view of the matter, it is neither a mill, a fermenting vat, nor a stew pan; but a stomach, gentlemen, a stomach."

And the third epoch Professor Mendel believes to coincide with the use of modern chemistry and begins with the discovery of hydrochloric acid in the gastric juice in 1824, which was soon followed by Beaumont's work on the man with a gastric fistula.

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*Lafayette B. Mendel. *Popular Science Monthly*, Feb., 1909, Vol. 74, p. 174.

Professor Mendel continues:

"Let us bear in mind, then, that although the presence of a solvent fluid in the stomach had begun to be admitted in 1803, its nature and the mode of its operation were not understood until Beaumont's classic experiments (1833) on 'the man with a lid on his stomach' as—St. Martin was derisively called. Reaumur (1752) experimented on a lizard, administering to it hollow metallic capsules perforated like a sieve and containing foods within. The possibility of mechanical crushing or trituration was thereby excluded; but when the tubes were regurgitated it was found that digestion (solution) of the food materials had nevertheless taken place. Some chemical action must have been exerted; and by placing sponges in metallic tubes, Reaumur was able to express therefrom specimens of gastric juice fluid. He appreciated that it possessed properties antagonistic to putrefaction, and fragmentary as his observations may appear, he introduced a new method into physiological research."

Dr. Young opened his dissertation with a review of the Nutrentia. He criticizes the views of Dr. Cullen who referred "the principal of nutrentia to vegetables; and that they derive this property from their acid, sugar and oil."

Turning to Dr. Young's observations on the processes in the stomach it appears that he assumes he can draw "plausible if not conclusive, inferences concerning our own digestion." He says:

"It would be unnecessary to recite particular experiments to prove the solvent property of the gastric fluid, this being admitted on all hands. . . The effects of solution are most remarkable in such animals as swallow their food without mastication. . . [Some experiments on frogs and snakes followed]. The gastric fluid of man and that of frogs and snakes agree perfectly in their action on flesh, as the experiments of Spallanzani prove that the first of these powerfully dissolves meat out of the body. . . Thus far the digestion of man and these animals perfectly agree, in solution being the first step towards the conversion of food into chyle; but they differ in some particulars, and probably by attending to these they may be of use to us.

"First, they are cold blooded animals. Heat is a powerful agent in all solutions, and the experiments of Spallanzani prove it

greatly assists the action of the gastric liquor out of the stomach. Secondly, they do not masticate their food.

"These two inconveniences are obviated by these animals never drinking when their digestion is going on, so that their fluid acts in its undiluted state; whereas in man, it is always diluted, as he seldom eats without drinking. . .

"Thus when our stomachs are weak or we are troubled with dyspeptic symptoms, like them we ought to avoid much diluting our gastric juice; so that although it were secreted not perfectly healthy, yet having the advantage of acting in its uncombined state, solution and digestion may go on, when it otherwise would not, with the common quantity of drink. Indeed our stomachs in this respect act a kind part to us; for when we make one first dish in broth it seldom relishes much solid aliment after it; hence soups are the first dish at the table of the temperate and the last at that of the epicure."

Again, Dr. Young turns his attention to the question of fermentation and putrefaction and of the latter he writes: "Chemists divide fermentation into three kinds, the vinous, acetous and putrefactive; the product of the first is vinous spirit, or alcohol; of the second, acetous acid or vinegar; of the third, ammoniae or volative alkali. [Experiments follow] . . We conclude the vinous fermentation has nothing to do with the digestive process."

Dr. Young's attempt to identify the acid present in the gastric juice is most interesting.

"Though great accuracy and many varied experiments are required to ascertain certainly the presence of an unknown acid, yet we are disposed to believe any person who had witnessed the great similarity in the comparative precipitations just mentioned would have pronounced the same explanation was to be applied to both, or that the acid in the filtered fluid was the phosphoric."

One sentence of Dr. Young's in conclusion, explains his ideas of the digestive function.

"Aliment is dissolved by the gastric menstruum; it then passes into the duodenum and meets with bile and pancreatic liquor; after being united with these, a heterogenous mass is formed called chyme, and from this the lacteals secrete chyle."

Professor Mendel concludes his article with an interesting remark which Dr. Beaumont made when he noted that the vague

ideas of preceding times were in marked contrast with such experimental inquiries as Dr. Young's.

"It is unfortunate for the interests of physiological science that it generally falls to the lot of men of vivid imaginations and great powers of mind to become restive under the restraints of a tedious and routine mode of thinking, and to strike out into bold and original hypotheses to elucidate the operations of nature, or to account for the phenomena that are constantly submitting to their inspection. The process of developing truth, by patient and preserving investigation, experiment and research, is incompatible with unrestrained genius. The drudgery of science is left to humbler and more unpretending laborers. The flight of genius is, however, frequently erratic."

Macdonald Institute, Guelph. The Home Economics Department of Macdonald Institute, Guelph, Ontario, lost two members of the staff at the end of the winter term. Miss Fonda, Assistant Instructor in Sewing, has resigned, and Miss Givin, chief Instructor in Domestic Science, is obliged to give up teaching on account of ill health. Miss Givin has been on the staff since Macdonald Institute opened, and much of the success of the teacher graduates of the Institute has been due to her careful instruction, so that her loss is felt greatly. Miss Jean Roddick, of Coburg, Ontario, will succeed Miss Givin, and Mrs. Doughty, a graduate of Pratt Institute, will succeed Miss Fonda.

The plan inaugurated last September of giving the House-practice work a special headquarters in a room by itself, and placing the house practice and housekeeping practice in charge of a supervisor, has proved most satisfactory. The individual attention rendered possible, and the careful inspection, has greatly improved the training.

Macdonald Institute is a residence school, so registration is limited by the boarding accommodation. The list for the current term has been full since January, and there are not many left in the list for next September. This shows that the demand for home economics training is very great in Canada as well as in the United States.

CARNEGIE NUTRITION LABORATORY.

A photograph of the nutrition research laboratory of the Carnegie Institution of Washington appears as the frontispiece of this number of the JOURNAL. This building was completed early in 1908 and very extensive and important experimental work in problems dealing with human nutrition is now being conducted under the direction of Doctor Francis Gano Benedict, who was formerly associated with the late Professor Atwater in his researches at Middletown, Conn.

The laboratory is located in Boston, Mass., adjoining the magnificent buildings of the Harvard Medical School, and is in close proximity to several hospitals, thereby affording unusual opportunity for observations on pathological metabolism as well as that of normal subjects.

As may be seen from the illustration, the laboratory building is a plain, brick structure of three stories and basement. It is of fireproof construction throughout and is particularly well lighted. Each laboratory room is equipped with hot and cold water, steam, electricity, gas and compressed air.

The most interesting feature is the calorimeter laboratory which is located on the first floor. This is ingeniously constructed to permit of very close temperature and moisture control. A number of respiration calorimeters for experimentation with man are in operation in this room. There is also a special suite of rooms on the third floor for use in metabolism experiments with animals. Ample provision is made for chemical and bacteriological laboratories, a kitchen, offices, a machine shop, photographic room, etc. and a large amount of accessory apparatus has been installed. It is believed that the opportunities for researches of fundamental importance and value are in many ways unequalled either in this country or abroad, and should be productive of results of unusual importance.

A feature of the Carnegie Nutrition Laboratory work will be the study of nutrition problems in relation to pathological conditions. It is not too much to expect that results of the utmost value with reference to food problems in disease, will accumulate rapidly, for the laboratory possesses equipment for studying such problems which has never before been available for

the purpose. In the work which he has published as a part of the nutrition investigations of the Office of Experiment Stations of the Department of Agriculture and that which he has carried on under the auspices of the Carnegie Institution, Doctor Benedict has established a standard of excellence seldom surpassed in scientific research.

Model Homes in Newark. The Friendly Visitor Conference of the Bureau of Associated Charities of Newark, N. J., is working on the plan of establishing small model homes in neighborhoods of Newark where they seem most needed as object lessons in proper home-keeping. These homes will be furnished in the simplest and least expensive manner, but will be made sanitary, practical and attractive. The aim is to make educational and social centres where home-keeping in all its branches may be taught and standards of living raised through the creation of an atmosphere of interest in helpful and useful pursuits.

Special attention will be given to home economics with the end of achieving adequate nourishment of the family and provision for other things necessary to a wholesome manner of living on a modest regular income.

A committee is now working on a system of dietaries which will be scientifically formed to combine in right proportions the necessary food elements. Cooking lessons will be given by trained teachers. The homes ought also to offer opportunities for the teaching of social hygiene. Mothers will be instructed in matters of child-raising and aroused, where possible, to a sense of their moral duties. The main feature of the work will be that consideration of the family as a whole will be its basis.

Cooking classes and social meetings have already been held at the Neighborhood House on Market street, where the attendance and interest have been very encouraging. The Conference hopes to start four homes this spring, each consisting of a model kitchen, bed room and living room. The estimated cost of each home is $30 for furnishing and $20 a month for maintenance. The results which may be obtained through this kind of social work may be studied in New York where four homes have been in existence for seven years and have transformed individual and family lives under the eyes of those supporting and working in them.

EFFECT OF SUGAR AND TEMPERATURE ON FRUIT JUICES*.

JENNY HELEN SNOW.

The object of the following experiments is two-fold:

(a) To disclose what part sugar has in jelly making.

Very little is known by the average housekeeper of the pectic bodies which cause the jellying of fruit. To her, sugar is the essential factor.

(b) To determine whether it is possible to find a temperature or a density at which fruit juices jelly.

The usual laboratory method of determining this point often proves more or less unsatisfactory, especially in the hands of inexperienced workers. The attempt to find a more certain test led to the following experiments. A number of determinations were made of the boiling point and of the density at the boiling point of fruit juice yielding a jelly of different degrees of firmness.

These experiments were made with the juice of three different fruits: apples, plums and currants, and the effect of varying amounts of sugar was studied in each case.

In each case a sample of boiling juice was removed at 104°, 105°, 106° and 107° C, respectively, and the density determined and the quality of the product after cooling noted. The Beaume hydrometer was used for measuring the density.

The table on the following page is a summary of the results obtained.

Experiments Nos. 1, 7 and 11 were of the same consistency and texture. The temperature varied from 104°C to 106°, while the density remained constant at 30.

Experiments Nos. 13 and 18 were of the same consistency and texture. The temperature varied from 105°C to 107, while the density remained constant at 30.

Experiments Nos. 17 and 21 were of the same consistency and texture. The temperature varied from 106°C to 107°, while the density remained constant at 28.

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*A dissertation submitted in 1907 to the faculties of the Graduate Schools of Arts, Literature and Science, University of Chicago, in candidacy for the degree of Master of Science. Department of Household Administration.

TABLE I—RELATION OF AMOUNT OF SUGAR USED TO TEMPERATURE AND DENSITY OF JELLY.

No. of Test.	Fruit used.	Amt. of Juice.	Amt. of Sugar used.	Temperature.	Density of Jelly at boiling point.
				Degrees.	Degrees.
1	Apples	1 cup	1 cup	104	30
2	"	1 "	1 "	105	31
3	"	*1 "	1 "	106	32
4	"	1 "	1 "	107	33
5	"	1 "	¾ "	104½	29
6	"	1 "	¾ "	105	29.5
7	"	1 "	¾ "	105	30
8	"	†1 "	¾ "	107	30.5
9	"	1 "	½ "	104	28
10	"	1 "	½ "	105	29
11	"	1 "	½ "	106	30
12	"	†1 "	½ "	107	31
13	Plums	1 "	1 "	105	30
14	"	1 "	1 "	106	32
15	"	1 "	1 "	107	34
16	"	1 "	¾ "	105	26
17	"	1 "	¾ "	106	28
18	"	1 "	¾ "	107	30
19	"	1 "	½ "	105	24
20.. ..	"	1 "	½ "	106	26
21	"	1 "	½ "	107	28
22	Currants	1 "	1 "	105	26
23	"	1 "	1 "	106	28
24	"				
25	"	1 "	¾ "	104	
26 ...	"	1 "	¾ "	105	
27	"	1 "	¾ "	106	
28	"	1 "	½ "	104	24
29	"	1 "	½ "	105	25
30	"	1 "	½ "	106	26

*Syrupy consistency, did not hold form.
†Too stiff.

Experiments Nos. 22 and 30 were of the same consistency and texture. The temperature varied from 105°C to 106° while the density remained constant at 26.

From the above results it seems to be indicated that the density at which a good product may be obtained varies with different fruits, but seems to be nearly uniform for each fruit and not affected by the amount of sugar used.

This density was obtained at a lower temperature and in less time with the larger amount of sugar. The smaller the amount of sugar used, the longer the period of boiling required and the darker the color of the product.

In each case the smaller the amount of sugar, the more pronounced the fruit flavor of the jelly.

The larger amount of sugar used lessened the cost per glass, as shown by the following table:

TABLE II—COST OF JELLIES MADE WITH VARYING AMOUNTS OF SUGAR.

Proportion of sugar to juice.	Cost per ½ pt. glass.			
	Currants.	Grapes.	Apples.	Plums.
	cts.	cts.	cts.	cts.
1:1	11	5	6	10
3:4	13	6	7	11
1:2	22	7	9	12

The currant jelly was made in July, the grape in October, the plum in May and the apple in June. The prices paid for the fruits were: currants, 18c a quart box; grapes, 18c a ½ peck basket; plums, 15c a quart box; and apples, 90c a peck.

It was found that the currants, grapes and plums would jelly without adding sugar, but the product was neither clear nor palatable and the cost in the case of the currants was over a dollar a glass.

The jelly containing the smaller proportion of sugar seemed to keep as well as that containing the larger proportion.

The bulletin, Sugar as Food[a], by Mary Hinman Abel, contains the following statement:

"Cooks have often observed that more sugar is necessary in sweetening acid fruits if it is heated with them from the first than if it be added when the cooking is completed. This is because some of the cane sugar, acted on by the heat and acid, has been changed to those other bodies which are less sweet."

Knight[b], says, "ordinary cane sugar is 'inverted,' that is resolved into equal parts of dextrose and levulose, a mixture of glucoses, by boiling with any mineral acid, and since glucose is only about three-fifths as sweet as cane sugar the result is an apparent loss of sweetness."

The above statements led to a discussion of the subject. It was found opinions differed. The question was referred to the Office of Experiment Stations of the U. S. Department of Agriculture, but it was reported that additional data were needed. Accordingly, experimental work was undertaken to see if the

[a] U. S. Dept. Agr. Farmer's Bul. 93.

[b] Food and its Functions, p. 40.

question could be answered. The following points seemed to be involved:

First, what percentage of cane sugar is inverted by each of the different methods used?

Second, is the invert sugar more or less sweet than cane sugar?

Third, is the difference sufficient to be of any practical account?

1. In these experiments Greening apples were chosen as the fruit, first, because they were most easily obtained on account of the season of the year, and second, because they are a mildly acid fruit. The first series of experiments consisted of the analysis of five different samples of apples. Determinations were made of (1) acidity, (2) of the amount of reducing sugar, (a) in the natural fruit juice, (b) in the juice of apples cooked without sugar, but with cane sugar added immediately at the close of the boiling process, (c) in the juice of the apples cooked with cane sugar.

The sugar determinations were made partly by the volumetric and partly by the gravimetric process, using the official methods[a].

The samples taken were a mixture of the pulp from four different apples, in order to assure uniformity. In (a) the pulp was mortared, diluted, filtered and after being made up to a known quantity, tested for invert sugar and acidity. In (b) and (c) the pulp, after being cooked, was treated the same as in (a).

These results are tabulated on the next page.

To secure data as to the comparative sweetness of cane and invert sugar, equal amounts, by weight, of chemically pure cane sugar, dextrose and levulose were dissolved in equal amounts of water, and the solutions carefully tasted by four different people. Equal amounts of the dextrose and levulose solution were then mixed and the sweetness compared with an equal measure of the first solutions. The result was as follows, taking cane sugar as the standard:

Dextrose, much less sweet than cane sugar.

Levulose, sweeter than cane sugar.

Mixture of equal parts of levulose and dextrose, less sweet than cane sugar.

The third experiment consisted in cooking larger amounts of apples with the sugar added respectively before and after boiling.

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[a] U. S. Dept. Agr. Bul. Chem. 65.

TABLE III—ACIDITY AND REDUCING SUGARS IN COOKED APPLES.

Process.	Wt. used.	Acidity (in terms of N/10 sulphuric acid.)	Reducing sugar.	For 100 Gms. apples.	
				Acidity.	Reducing sugar.
SERIES I	Grms.		Grms.		Grms.
(a) Fresh fruit. No sugar added	25.17	21.234	2.527	84.36	10.036
(b) Fruit boiled with water, 55 min. 2.5 gr. cane sugar added after boiling	25.4	21.331	3.4246	83.96	13.44
(c) Fruit boiled with water and 2.5 gr. cane sugar for 55 min.	25.4	19.84	3.419	78.11	13.45
SERIES II					
(a) Fresh fruit no sugar added	25.	16.36	1.57	65.44	6.28
(b) Fruit boiled with water, 45 min. 5 gr. cane sugar added after boiling	25.	16.05	2.0978	64.2	8.3912
(c) Fruit boiled with water, and 5 gr. sugar for 45 min.	25.	16.	3.757	64.	15.028
SERIES III					
(a) Fresh fruit. No sugar added	25.	23.09	1.631	92.36	6.524
(b) Fruit boiled 45 min. 12.5 gr. sugar added after boiling	25.	22.523	2.952		11.808
(c) Fruit boiled with water and 12.5 gr. sugar	25.	21.959	7.07		28.28
SERIES IV					
(a) Fresh fruit no sugar added	25.	22.5	2.365	90	9.46
(b) Fruit boiled with water 80 min. 12.5 gr. sugar added after boiling	25	23.12	3.453	92.48	13.812
(c) Fruit boiled with water and 12.5 gr. sugar for 80 min	25	23.72	8.064	94.88	32.256
SERIES V[a]					
(a) Fresh fruit juice	10		.849		
(b) Fruit juice diluted and boiled 30 min. 6 gr. sugar added after boiling	10		.958		
(c) Fruit juice diluted boiled with 6 gr. sugar 30 min	10		2.195		

[a] In this experiment the juice of the fruit was expressed and used instead of the whole fruit. The sugar was determined gravimetrically.

Equal amounts of fruit were used, and the same weight of sugar added to each, in No. 1 at the beginning, in No. 2, at the end of the cooking process. Out of six different people tasting, four considered No. 2 sweeter, and two considered No. 1 sweeter, but all agreed that the difference was so slight as to be determined with difficulty.

A repetition of the experiments with plums gave a similar result.

The results above seem to indicate:

First, that the cane sugar added to apples before cooking and boiled with them, is largely inverted, experiment No. 1 alone failing to give this result.

Second, when the cane sugar is added at the close of the cooking process, it is only slightly inverted.

Third, invert sugar is less sweet than cane sugar.

Fourth, the difference in sweetness between stewed apples when the sugar has been added before and after cooking respectively is so slight as to be of little practical consequence.

Fifth, the experiments with one exception show that the acidity is less in apples cooked in water either with or without sugar than in uncooked fruit.

These investigations form a part of work undertaken at the School of Education of the University of Chicago in cooperation with the Nutrition Investigations of the Office of Experiment Stations of the U. S. Department of Agriculture. A brief note on the results obtained appeared in the Report of the Office of Experiment Stations for 1907[a]. The present report represents the results of a preliminary investigation. Additional work which is now in progress may modify the conclusions to some extent.

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[a] U. S. Dept. Agr., Office of Experiment Stations Annual Report 1907, p. 29.

[NOTE.—After this paper was in type the author's attention was directed to the interesting account of investigations of similar problems by N. E. Goldthwaite, of the Department of Household Science of the University of Illinois, which appeared in the June number of the *Journal of Industrial and Engineering Chemistry*, 1 (1909), p. 333.]

AN ABUSE IN THE DISTRIBUTION OF FOOD STUFFS.

By Miriam Birdseye,

New York City.

Each year the approach of summer initiates an abuse in the distribution of food stuffs with which the public is too familiar to be concerned. The Pure Food Law, after years of struggle on the part of an ever-increasing body of believers, has become a force that must be reckoned with by all manufacturers and dealers in food stuffs and we are complacently resting on our laurels. We do not realize that another reform of almost equal magnitude is calling for our best efforts.

With the first warm days, the green grocer begins to move his less perishable fruits and vegetables out upon the sidewalk, where according to his ability, he arranges a display designed to attract the custom of the casual purchaser, as well as to convince his regular patrons that his selection is not inferior to that of his competitors. Marketmen prepare this display at a considerable sacrifice of time and money, for not only is their stock likely to be damaged in the early spring by some sudden change of weather, but in summer it slowly and surely deteriorates under the combined action of the sun and the sultry breezes.

From the point of view of the purchaser, certain, at least, of the fruits and vegetables so exposed for sale are absolutely contaminated. Berries and grapes, lettuce, watercress, etc., are eaten raw, without being sterilized by the action of heat, and it is impossible to wash them so thoroughly that we can be sure they are absolutely free from a dilute solution of the street-dirt they have gathered. The skins of many fruits and the pods of string and lima beans are minutely downy or hairy, and these tiny hairs catch invisible particles of dust and hold them in spite of the most careful washing. String beans, to be sure are never eaten raw, but one does not relish the thought of partaking of an unnecessary quantity of dirt, even though it be sterilized. On some sidewalk fruit stands one sees cracked and shelled nuts ready for sale, the crevices and intricate convolutions affording the best possible hiding places for dust. In the majority of shops, too, dried fruits like dates and figs, though kept inside on

the counters, are habitually left uncovered and may gather the dust of weeks, before some purchaser appears.

If a resident of New York or of any other large city will consider the amount of dust which gathers on her polished table tops in twenty-four hours; if she will remember how many times she must wash her hands during the day to keep them even moderately presentable; if she will think of the city streets, with their unspeakable slime on wet days, and their layer of dirt in dry weather agitated by the wind, the street cleaner and the brooms of housemaid and marketman, whose virtuous clouds of dust she dodges every morning on her way to school or business; if she recalls the ugly spots on the pavement left by the free and-easy citizen who disregards the imperious "Don't Spit" of the Health Department; if she will pause to mediate upon the flies, swarming to bestow their attentions impartially upon decaying refuse in the garbage-pail and the grocer's fresh fruit, so temptingly laid out next door; if, I say, to these observations she will add a little reading on the subject of germs and germ-carried diseases, she will certainly take the next opportunity to plead with her dealer to keep his wares under cover. And he will reply, respectfully but firmly, as my grocer replied to me when I described to him the feelings with which I viewed his berries exposed upon a Third Avenue sidewalk:

"I know that what you say is all true, and I wouldn't like myself, to eat berries that have been out in the dust all day,—and besides, we lose a lot of stock by drying up. I'd be glad enough to keep them inside, but what can I do? If customers don't see things right under their noses, they think they haven't any selection at all, and competition is too keen here on Third Avenue to risk losing trade."

And so, when I passed his shop later in the day, though the gas mains were being repaired, and for the space of a dozen yards around his corner the dirt was piled up five feet high; though a young hurricane was blowing and clouds of Third Avenue dust were filling the air, I saw his sidewalk display in its accustomed place headed by some dozen boxes of discouraged looking strawberries, whose forlorn and wilted condition testified that they had stood their ground courageously since early morning.

The Health Department of New York City officially recognizes the danger of the contamination of certain food stuffs by exposure

to the city air. Section 46 of the Sanitary Code reads as follows:

"No breadstuffs, cake, pastry, dried or preserved fruits, candies or confectionery shall be kept, sold or offered for sale outside of a building in the City of New York, or in any street or public place, unless they be kept properly covered so that they shall be protected from dust and dirt."

In accordance with this regulation the "ambulant vendors" of such wares have been obliged to supply their carts with glass covers,—which they carefully fold back during rush hours, in order not to obstruct the view of their stock-in-trade. Evidently the demand is good, and the policeman on the beat indifferent, as for every candy push-cart properly covered, one may count twenty-five or more wide open to the winds of heaven and to the seeds of contagion which those winds bear upon their wings. Some of these vendors seem to recognize that a layer of dust upon their wares is likely to discourage the more fastidious of their customers, and so they keep a time-honored feather duster—one I saw in use was made of turkey feathers and must have been at least ten years old—tucked away behind the wheels to freshen up their stock. In the lower and more crowded districts of the city one may see the law still more openly violated, and rolls and chocolates being sold from open carts and stands with no pretense whatever of protection from the dust. Every now and then, of course, orders are issued from headquarters for a raid and the strong arm of the law sweeps a few hundred push-cart men into the courts, but for the most part they are left to use their folding covers as they please, and the crowds of working women and children, streaming along the sidewalks morning and night, purchase and swallow down these dust-laden delicacies together with their dangerous freight. If the system of policing which nature has set up within the body for the arrest and detention of invaders were not far more effective than any we have as yet been able to develop in our cities, doubtless there would be more sickness than there is now as a result of eating food contaminated by city dust.

Another dangerous custom, at present apparently permitted by law, is the sale from open carts and stands of melons and pineapples by the slice. In some parts of the city it is no unusual sight to see a cart supplied with a goodly stock of these slices,

which the thrifty dealer has prepared beforehand to tempt the appetite of the office-boy or the school-child during his brief luncheon-period. Fancy can scarcely outdistance fact in picturing the condition of these moist and succulent dainties after they have been exposed for half an hour on a dusty, windy thoroughfare.

Granting, as every thoughtful and well informed person must, that such conditions in the distribution of food are a menace to the health, and thus to the welfare of the community, how may we most effectively secure their abolition?

At first sight, nothing seems easier. Here is a pure food campaign in which we do not need the services of the expert chemist or microscopist to determine for us the exact nature of the harmful adulterant. With that adulterant we are all too well acquainted, we know its possible harmful effects upon the system, and we can see with our own eyes the manner of its incorporation into the food stuff. We do not need extensive legislation—a few terse sentences of a city ordinance, rigidly enforced, would solve the problem completely. The difficulty lies, not in making the law, but in enforcing it. What we need behind such an ordinance to make it effective is public opinion—the opinion of the housekeeper with money for the day's marketing in her pocket, who is, in the last analysis, the employee of the green-grocer; the opinion of the child on his way to school or to work, who is, at the bottom, the one really responsible for the push-cart man's violation of the Sanitary Code. To form public opinion is a long, tedious process, often a discouraging one, but continued planting of a good seed, together with watchful watering and pruning, cannot but result at last in a satisfactory crop. In a day when the child-student of cooking confidently shouts out "germs" in answer to every question whose drift she does not quite catch, who can say that the ground is not well broken, and that the teacher and the woman's club need do much more than make the application and persistently drive it home?

Beginnings have already been made by both these agencies. In the "discussion-paper" appended to the bulletin on Bacteriology of the Household, issued in February 1909 by the New York State College of Agriculture, and intended to be circulated throughout its admirable system of Reading Clubs for Farmers' Wives, we find the following as the first question:

"The exposure to dust in open store windows and in wagons of fruit and vegetables to be used on the table is dangerous because the products collect on their surfaces germs which may be communicated to the consumer. Would it not encourage care on the part of the seller if housewives combined to object to purchase such provisions? Discuss."

This is a pertinent suggestion. The *concerted* demand of the consumer, backed by his capital, small in the case of the individual but tremendous in the aggregate, has absolute power to dictate selling conditions—nay, even the conditions of manufacture.

The Food Committee of the Consumers' League of New York City has gone into the campaign against unclean methods of retailing foodstuffs with vigor and initiative, and has published literature which will materially assist the teacher in bringing the question of food-contamination forcibly before her class. In three languages—English, Italian, and Yiddish—it publishes in folder and in calendar form its Sanitary Maxims. The calendar is headed by a picture in colors, and is suitable for hanging on the wall of kitchen or living-room. The Maxims set forth in terse sentences and with the authority which print carries with it, especially in the eyes of children, just what one should expect of one's provision dealer in the matter of keeping his goods off the street, properly covered, protected from flies, in clean utensils, handled by clerks in cleanly costume and with clean hands and nails, together with succinct directions for selecting fresh meats, fish, fowl and milk. This literature is sent free of charge in any reasonable quantity to those who can make good use of it, and the folders make a most practical addition to a child's cooking note-book. Besides the Maxims, the Committee publishes also a Circular Letter to Grocers, which quotes the provisions of the Sanitary Code relative to the improper exposure of foodstuffs, explains the danger caused by dirt and flies, defines a model market, and asks for co-operation in setting "a high standard of Sanitation and Cleanliness in the handling and sale of food." This publication may be had also by applying to the Food Committee at the offices of the City League, 105 E. 22d Street, New York. Several local associations of retail grocers, notably in the better parts of the city, have endorsed the Letter and adopted its recommendations wherever these required a change

in store administration. A tremendous amount, however, still remains to be accomplished by individual effort. Members of the Committee, armed with the literature as described above, take a section—a certain number of blocks along some avenue near their homes—and sally forth to visit the provision stores, explain the object of the committee, and induce the cleanest and most progressive dealer to set the fashion of a raised standard, assuring him that his efforts will be rewarded by increased custom. This method of personal investigation has proved remarkably successful, and were it to be supplemented, as it could more easily be in almost any other city than in New York, by concerted action among the housewives in that section, results would be surprisingly quick to follow.

A plan which has worked well in a school of my acquaintance is to get the girls in the cooking classes thoroughly interested, furnish them with literature, and set them, with the aid of their mothers, to investigating the conditions of food-distribution in their own neighborhoods. Quite apart from the results accomplished in the improvement of the provision-shops, the new interest with which the children observe neighborhood conditions is striking, and cannot but help to make them better members of the community, as well as more thoughtful spenders. If, in addition, some sort of an organization be formed—a school chapter, for example, of the City Consumers' League, a tremendous vogue will be given to the movement, and meetings may be planned at which good speakers shall talk to the members and their friends on pure foods, home sanitation, civic hygiene, and other Home Economics themes. The children will look up the regulations of the local health board and report violations, the secretary sending a complaint to the proper authorities in the name of the School Chapter. In high schools, where the students are sufficiently mature, interest may be guided towards the other objects of the Consumers' League—improving the condition of women and children employed in retail stores, child-labor legislation, factory and tenement house inspection, and the movement to abolish the sweat shop with its attendant evils of the distribution of infection and the depression of the standard of wages. Surely, Home Economics broadly conceived involves a recognition of the fact that the woman to whom is intrusted the spending of the family income can and does profoundly influence economic and

industrial conditions for good or evil. Children in the high school are not too young to learn this lesson; and to my mind, among the many lessons which the science of the home has to teach, there is none greater than this—stamped upon young minds at their most impressionable period—of social responsibility and of social service.

We seem to have wandered far afield from our dusty fruits and our uncovered candies. Not so. The experiment in Home Economics outlined above has been successfully tried, and the young citizens who go out from that school go not only with information on the subject of "germs" to keep them from patronizing the push-cart, but with the sense of social responsibility which will help form that sound public opinion needed behind every law, whether it aim to promote physical or moral well-being, before it can accomplish fully the good for which it was intended.

The Cost of Cleanness, Mrs. Ellen H. Richards. John Wiley & Sons New York City. $1.00.

Mrs. Richards' last book, *The Cost of Cleanness*, has called out many favorable press notices. The following sentences are taken from a column article in the *New York Times Saturday Review of Books*, January 9th, under the title, The Cost and Economy of Banishing Dirt. "In this volume Mrs. Richards works out the cost of being clean in person, house, food, and city, and compares it with the demonstrated cost of ignoring dirt in any or all of those particulars.

"The author makes a rough estimate that in the United States there are wasted each year $500,000,000 in unnecessary sickness due to unclean ways, besides the loss in earning capacity due to lessened efficiency where there has been no actual illness. This loss in efficiency due to unclean air, unclean food, and low ideals of personal and municipal cleanliness,she insists upon as one of the most important factors of the question. Mrs. Richard's book is concise and condensed to the point of bluntness. Each sentence is a bullet for compactness and energy of propulsion."

FLIES AND TYPHOID FEVER,—MEASURES FOR DOING AWAY WITH THESE PESTS.

In a bulletin of the Department of Agriculture which has just been published, entitled Economic Loss to the People of the United States Through Insects that Carry Disease[a], Dr. L. O. Howard, Chief of the Bureau of Entomology, has summed up and discusses some of his own valuable researches together with the work of other investigators. Mosquitoes and their relation to yellow fever and malaria, the "typhoid fly commonly known as the house fly," and endemic diseases as affecting the progress of nations, are the questions which Dr. Howard considers. The United States he believes, "is just awakening to a knowledge of the disastrous results following a lack of appreciation of the danger arising from the unchecked development of mosquitoes and the typhoid fly, and it is hoped that this bulletin will not only emphasize this danger, but will also lend support to movements, both local and widespread, toward the destruction (often so easy) of these carriers of disease."

The bulletin is of great value as well as interest. In view of the importance of spreading information regarding the great household pest,—the fly—it seems desirable to quote extensively from Dr. Howard's most useful treatise:

"The typhoid or house fly is a general and common carrier of pathogenic bacteria. It may carry typhoid fever, Asiatic cholera, dysentery, cholera morbus, and other intestinal diseases; it may carry the bacilli of tuberculosis and certain eye diseases; it is everywhere present, and it is disposed of with comparative ease. It is the duty of every individual to guard so far as possible against the occurrence of flies upon his premises. It is the duty of every community, through its board of health, to spend money in the warfare against this enemy of mankind. This duty is as pronounced as though the community were attacked by bands of ravenous wolves.

"As a matter of fact, large sums of money are spent annually in the protection of property in the United States. Large sums of money are spent also in health matters; but the expenditure for protection from flies is very small and is misdirected."

[a]U. S. Dept. Agr. Bur. Ent. Bull. 78.

"The danger of the typhoid or house fly in the carriage of disease has thus been abundantly demonstrated. Further than this, it is an intolerable nuisance. With mosquitoes it necessitates an annual outlay for window and door screens in the United States of not less than ten millions of dollars. As a carrier of disease it causes a loss of many millions of dollars annually.

"As an agency in the spread of other intestinal diseases, this sum must be greatly increased, and yet it is allowed to breed unrestricted all over the United States; it is allowed to enter freely the houses of the great majority of our people; it is allowed to spread bacteria freely over our food supplies in the markets and in the kitchen and dining rooms of private houses, and, to use the phraseology of Dr. Theobald Smith, when we go into public restaurants in midsummer we are compelled to fight for our food with the myriads of house flies which we find there alert, persistent and invincible.

"Even if the typhoid or house fly were a creature difficult to destroy, the general failure on the part of communities to make any efforts whatever to reduce its numbers could properly be termed criminal neglect; but since, as will be shown, it is comparatively an easy matter to do away with the plague of flies, this neglect becomes an evidence of ignorance or of a carelessness in regard to disease-producing filth which to the informed mind constitutes a serious blot on civilized methods of life.

"If we allow the accumulation of filth we will have house flies, and if we do not allow it to accumulate we will have no house flies. With the careful collection of garbage in cans and the removal of the contents at more frequent intervals than 10 days, and with the proper regulation of abattoirs, and more particularly with the proper regulation of stables in which horses are kept, the typhoid fly will become a rare species. It will not be necessary to treat horse manure with chlorid of lime or with kerosene or with a solution of Paris green or arsenate of lead, if stable men are required to place the manure daily in a properly covered receptacle and if it is carried away once a week."

The orders of the health department of the District of Columbia if carried out would be very effective in any community for doing away with or greatly diminishing these dangerous insects. These orders Dr. Howard has briefly condensed as follows:

"All stalls in which animals are kept shall have the surface of the ground covered with a water-tight floor. Every person occupying a building where domestic animals are kept shall maintain, in connection therewith, a bin or pit for the reception of manure, and pending the removal from the premises of the manure from the animal or animals shall place such manure in said bin or pit. This bin shall be so constructed as to exclude rain water, and shall in all other respects be water-tight, except as it may be connected with the public sewer. It shall be provided with a suitable cover and constructed so as to prevent the ingress and egress of flies. No person owning a stable shall keep any manure or permit any manure to be kept in or upon any portion of the premises other than the bin or pit described, nor shall he allow any such bin or pit to be overfilled or needlessly uncovered. Horse manure may be kept tightly rammed into well-covered barrels for the purpose of removal in such barrels. Every person keeping manure in any of the more densely populated parts of the District shall cause all such manure to be removed from the premises at least twice every week between June 1 and October 31, and at least once every week between November 1 and May 31 of the following year. No person shall remove or transport any manure over any public highway in any of the more densely populated parts of the District except in a tight vehicle, which, if not inclosed, must be effectually covered with canvas, so as to prevent the manure from being dropped. No person shall deposit manure removed from the bins or pits within any of the more densely populated parts of the District without a permit from the health officer. Any person violating any of these provisions shall, upon conviction thereof, be punished by a fine of not more than $40 for each offense.

"In addition to this excellent ordinance, others have been issued from the health department of the District of Columbia which provide against the contamination of exposed food by flies and by dust. The ordinances are excellently worded so as to cover all possible cases. They provide for the registration of all stores, markets, cafes, lunch rooms, or of any other place where food or beverage is manufactured or prepared for sale, stored for sale, offered for sale, or sold, in order to facilitate inspection and still more recent ordinances provide for the registration of stables. An excellent campaign was begun during the summer of 1908

against insanitary lunch rooms and restaurants. A number of cases were prosecuted, but conviction was found to be difficult."

For one reason or another, Dr. Howard states, the chief one being the lack of a sufficient force of inspectors under the control of the health officers, the ordinance in regard to stables has not been carried out in the District of Columbia with that perfection which the situation demands. In the summer of 1896, the health officer of the District, designated a region in Washington which was to be watched by men connected with the Bureau of Entomology. Twenty-four stables were located in this region and were visited weekly by two assistants chosen for the purpose. "The result was that on the whole the manure was well looked after and the number of flies in the region in question was very considerably reduced during the time of inspection."

As regards the cost of such sanitary work in cities and towns the following figures for the District of Columbia inspection are of interest.

"Were simple inspection of stables all that is needed, a force of four inspectors, specially detailed for this work, could cover the District of Columbia, examining every stable, after they were once located and mapped, once a week. The average salary of an inspector is $1,147, so that the total expense for the first year would be something like $4,500. But the inspectors' service is complicated by the matter of prosecution. Much of the time of inspectors would be taken in the prosecution of the owners of neglected premises. Moreover, the health officer has found during the summer of 1908, in his prosecution of the owners or managers of insanitary restaurants, that his inspectors were practically sworn out of court by the multiplicity of opposing evidence. This means that it will be necessary in such cases to send two inspectors together in all cases, so that the testimony of one may be supported by the testimony of the other. This, perhaps, would double the number of necessary inspectors, making the expense of the service something over $9,000. It is reasonably safe to state, however, that with such an expense for competent service, or perhaps with a slightly added expense, the typhoid fly could be largely eliminated as an element in the transfer of disease in the District of Columbia, and the difficulty which the authorities have had in locating the cause of a very considerable proportion of the cases of typhoid in the District

for the past two or three years indicates plainly to the mind of the writer that the typhoid fly is a much more important element than has been supposed. It is a comforting although comparatively insignificant fact and a matter of common observation that in certain sections of the city the typhoid fly has been much less numerous during the past summer than in previous years. The writer is inclined to attribute this to the gradual disappearance of horse stables in such sections, brought about by the rapidly increasing use of motor vehicles."

In the campaign against flies the Department of Agriculture has been active for the past ten years or more.

In 1900 the Bureau of Entomology published a Farmers' Bulletin[a] entitled, How Insects Affect Health in Rural Districts, and up to the present time 192,000 copies of this bulletin have been distributed among the people.

"Moreover, a number of years ago a circular[b] was published on the subject of the house fly, calling attention to its dangers and giving instructions such as are covered in a general way in this article, and some 18,000 copies of this circular have also been distributed. This is an indication that the General Government is by no means blind to the people's needs in such matters as we have under consideration, but further work should be done."

That the English Government is awaking to the same need is shown by the fact that, in the parliamentary vote of the present year in aid of scientific investigations concerning disease, one of the projects supported by the General Government was an investigation on flies as carriers of disease.

In view of all the facts it seems as if every thinking person must agree with Dr. Howard's conclusion that: "As for the typhoid fly, that a creature born in indescribable filth and absolutely swarming with disease germs should practically be invited to multiply unchecked, even in great centers of population, is surely nothing less than criminal."

The following quotation from a recent bulletin of the Buffalo Board of Health is of interest in connection with the above discussion.

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[a] U. S. Dept. Agriculture, Farmers' Bull. No. 155.

[b] U. S. Dept. Agriculture, Bureau of Entomology, Circ. No. 35. This was issued in 1891, and afterwards reissued in revised form as Circular No. 71

"Flies thrive on filth. Make it impossible for the fly to exist, by keeping everything in and about your premises clean. The larvæ of the house fly live only in stable manure, excrement and garbage. If you remove the opportunity for propagation the fly must eventually become extinct.

"Remove every particle of filth, dirt, accumulations of all decayed or useless material in and about your premises.

"Do not allow any refuse matter to accumulate.

"Burn all table refuse.

"Keep cuspidors clean.

"Place your garbage in a can with a tight cover. Every time the can is emptied, sprinkle it with oil, lime or other disinfectant.

"Screen your doors and windows.

"Keep all stable manure in a covered receptacle, and clean it out frequently.

"Flies breed in manure, excrement, garbage and dirt. If you deprive the insect of breeding places there will soon be no flies.

"Screen or cover all food, whether it is on your table or other places in your home, or whether it is exposed for sale in a store or market.

"Burn pyrethrum powder in the house. It will kill most of the flies and stun the others, so that they may be swept up and burned."

Town and City. The Gulick Hygiene Series, Frances G. Jewett, pp. 270, illustrated. Boston: Ginn & Co. Price $.60.

A reader for school children which presents the subject of municipal sanitation briefly but so vividly that much of it will be remembered. The chapters on Garbage, Preventable Disease, Discovery of Disease Germs, and Safeguards against Epidemics, are capital. Lecturers to popular audiences will find its style most suggestive, and its matter very quotable. —Mary Urie Watson.

THE FACTORS OF COST OF BOARD ON MINNESOTA FARM HOMES.

Those who have read the paper on The Factors of Cost of Board on Minnesota Farm Homes by Thomas P. Cooper in the first number of this JOURNAL will be interested to see the bulletin just published by the United States Department of Agriculture of which he is joint author with Edward C. Parker, entitled, The Cost of Producing Minnesota Farm Products, 1902–1907[a]. Such studies as are here reported are fundamental to the adequate discussion of economic questions relating to rural life and welfare, and also supply data of value in the discussion of similar problems in town and city homes where little or nothing is produced but where practically everything is purchased.

The bulk of the report is taken up with the discussion of data regarding the cost of producing different farm crops, the cost of farm labor, statistics regarding cost of production and care of live stock, and similar matters. Those portions of the summary which have to do with the average wages on farms, cost of farm board, and the length of a farmers' working day are quoted below. It is to be regretted that the authors were not able to collect data for the discussion of the relative amount of labor performed by the farmer's wife, the length of woman's working day on the farm and similar questions.

"For the years 1904–1907, the average monthly wages paid farm laborers during the eight 'crop-season' months, April 1 to November 30, were approximately as follows: Northfield (1905–1907), $26.16; Marshall, $26.64; Halstad, $25.56; and the large farm in northwestern Minnesota, $26.77. During the months of December, January, February and March the average monthly wage at Northfield was $15.80; Marshall, $14.20; Halstad, $11.69; and the large farm in northwestern Minnesota, $14.36.

"The cost of farm board per month for one laborer, averaged for the three years 1905–1907, amounted to $14.36 at Northfield, $12.73 at Marshall, $11.58 at Halstad, and $10.02 on the large grain farm in northwestern Minnesota. The average cost per

[a]U. S. Dept. Agr. Bur. Statistics, Bull. 73.

day was 47.9 cents at Northfield, 42.4 cents at Marshall, 38. cents at Halstad, and 33.4 cents for the large farm in northwestern Minnesota; the average cost of board per month on all farms was $12. 65 and per day 42 cents.

"The average cash value per hour of farm labor on all farms, for the three years 1905–1907, is 11.2 cents for December, January, February and March, and 12.7 cents for the 'crop-season' months, April to November, inclusive. While wages are lower in the winter months, the number of hours worked by the laborers is much less than in the summer—thus there is little difference between summer and winter in the cost per hour for farm labor. This cost is based upon the wages paid to men plus the cost for board.

"The average length of the working day for men on the farms at Northfield, southeastern Minnesota, is 8.94 hours, with 3.64 hours for Sunday work. At Marshall, in southwestern Minnesota, 8.66 hours for the week days and 3.05 hours for Sundays; and at Halstad, in northwestern Minnesota, 8.10 hours for the week days and 2.76 hours for Sundays."

Higher Education of Women in Home Economics in England. An important meeting was held early in May in London at Grosvenor House for the furtherance of the higher education of women in home science and economics in connection with the courses recently established at the Women's Department of King's College, London. Sir Arthur Rücker, F.R.S., presided, and there was a large and influential attendance, including the Princess Louise and the Duke of Argyll, the Duchess of Hamilton, Mrs. Birrell, Mr. Chapman, (Chairman of the Surrey Education Committee), Miss Faithfull, (Cheltenham), Mrs. Homan (Association of Domestic Science Teachers), the Principal of University of London, the Principal of King's College, and Dr. Bovey, (Imperial College of Technology.) Brief addresses were made by the Earl of Lytton, the Hon. Mrs. Alfred Lyttleton, Mr. H. J. Mackinder, the Bishop of Kensington, and Miss Alice Ravenhill. Miss Ravenhill expressed the opinion that the seed for the new enterprise had been sown by the schools for the training of domestic science teachers and aided by the experience gained by these teachers in the elementary schools of the country. It was announced that donations for carrying on the work had been made amounting to $5,000 and that the Surrey County Council had pledged itself to maintain four scholarships.

BETTERING OF TASTE IN DRESS AND HOUSE FURNISHING THROUGH DOMESTIC ART.

LANA BISHOP.

Technical High School, Cleveland, Ohio.

How to influence for good taste in dress and house furnishing is a great problem. Domestic art is a wide field and we ask ourselves frequently: Are we, with all our care in trying to base our training on correct principles, selecting those things which are most vital for making the girls as they grow to young womanhood, efficient thinkers and workers as homemakers and good citizens?

Each girl, whether she is to enter the industrial field or become the head of a home, should receive such training as will enable her to meet and solve intelligently the problems which will come to her from time to time, not only from the practical standpoint, but from the economic and artistic side as well.

Good taste in dress is the faculty of being able to select and combine such materials, and to so adjust them to the figure, as to produce a perfect harmony.

Common sense should overrule the aspirant to successful dressing. Fashion often leads us far astray from the path of refined taste, and the prevailing shapes and colors must be modified according to the individual style and personality of the wearer or the results will be unsatisfactory to herself and to the friends whom she wishes to please. We are told that Queen Alexandra of England, is the best dressed woman of today, and why? She has made a study of what is most becoming to her as an individual, and no matter what is fashionable, she chooses that which is adaptable to her particular style.

Our best designers of gowns find most inspiring examples of color and designs for costumes, in the world's great picture galleries, where priceless portraits painted by old masters are hung.

Since our comfort and piece of mind depend largely upon our surroundings, the home should be a haven or rest. The old idea was that a beautiful home must necessarily be expensive and elaborate, but we now agree with the Japanese in his ideas of what is good in household art, and have learned to appreciate true beauty in simple things.

In the study of house decorations, as well as in the study of dress, we take into consideration the fitness to purpose, simple line, color combinations and appropriate materials. Each room in the house should receive careful thought, making the whole a harmonious color scheme.

Quoting from an article recently written: "In the matter of furnishing we ought to bear in mind that upon utility must all idea of decoration and ornament finally rest, and that an over-dressed house, is, were that possible, in worse taste than an over-dressed woman."

How can we, through domestic art, help the girls to appreciate all this? Begin early—with the very young children, working out simple problems, regulating the work according to the age, and gradually cover all the general principles, opening to the girls, step by step as they grow older, that side of life which rightfully belongs to them. Give them the history of textiles from the prehistoric ages, the time of the origin of tools to the present system of factories, where thousands of yards of materials are made daily; show them how to sew from the coarse stitches on canvas to the finest of French embroidery; teach them how to buy by making them familiar with all kinds of fabrics; help them to appreciate good design through their study of color, line and form and their application to materials.

The grace that comes from a mind trained to appreciate real beauty in simple things is what all women should secure. A woman who has secured this is a success both in the home and in society.

A great deal of attention should be given to the girl who is to become one of the great army of industrial workers. According to recent reports, there are 6,000,000 women in the United States who are gainfully employed. We find that in 72 of the 78 cities having 50,000 inhabitants, more than one-third of the girls between 16 and 20 years of age are at work. In 36 of these cities more than one-half are earning their living, and in 8 the rate rises as high as 69% and even 77% of the total number of girls. Nearly all occupations are open to them, and many industries which require skilled labor depend upon women for their finest workmanship. Although among this army of young women workers we find many trained for their various lines, a large majority are in the unskilled class and perhaps have begun as

cash girls or errand girls when only fourteen years of age. If a girl is unusually bright, she may rise to a good position, but in many cases the wage continues low in the scale and the results are sometimes serious. The young mind is susceptible to all sorts of temptations, her taste is undeveloped and her judgment is crude. Her desire to dress as other people do, leads her to buy beyond what she can afford, or to select inappropriate materials far removed from the artistic lines a person of more mature or trained mind would choose.

Employers are calling for trained workers in dressmaking, millinery and power-machine operating trades, and other skilled occupations for women, but the number ready to respond is small.

The apparent need for a place where girls could receive such training led to the establishment of the Boston Trade School for Girls in 1904. Two years previous the Manhattan Trade School in New York was started and it had grown to be very strong in its work—a model well worth copying. In the main the two schools are much the same, but owing to some differences in trade requirements of the two cities, certain lines are emphasized more in one than in the other.

The funds were raised by private subscription, a residence was rented and equipped, and the school opened with 14 girls which number increased to 50 before the end of the first year. As funds would permit, more space in the way of an adjoining residence has been added, and now this busy workshop accommodates 170 girls while more wait an opportunity to enter.

The school has proven its worth over and over again. It is impossible to estimate its value to the pupil or to the employer. At first employment was sought for the girls, now they cannot be trained fast enough to meet the demand. As the girls go out into the trade, an influence for better physical, moral and economic conditions among the industrial workers is gradually making itself felt, and life to the girls themselves is much happier for their having had a training at the trade school.

Our work in Domestic Art must be broad, dealing with all phases of the subject, influencing for better conditions in all places and teaching the girls how to live in their particular environment.

TEXTILE STUDY IN ROCHESTER ELEMENTARY SCHOOLS.

KATHARINE FRENCH STEIGER,

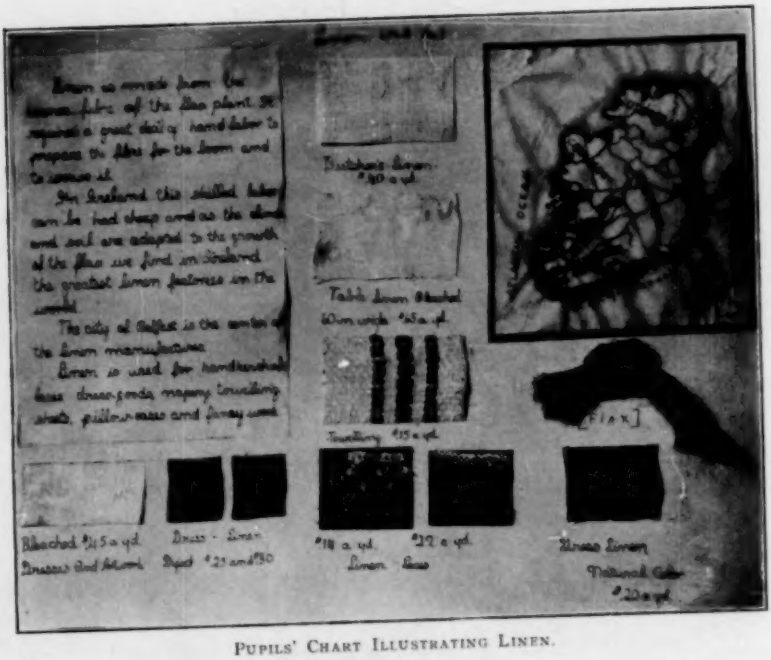
Supervisor of Domestic Art, Public Schools, Rochester, N. Y.

The subject of Domestic Art in the school has become a many-sided one. In conjunction with domestic science, household management and the trade school it is assuming a place of vital importance and gradually extending its influence into the college and the secondary school. The reason for this growth is obvious. The object of education is to fit the boy to be a man and the girl to be a woman in the fullest and truest sense. The business of domestic management is and always has been largely in the hands of woman. Women are the great consumers of the world. They are the ones who buy the output of the enormous cotton, woolen and silk factories, who select the clothing for the family, who supply the table with linen, china and glass, and who equip the home with rugs, hangings and furniture.

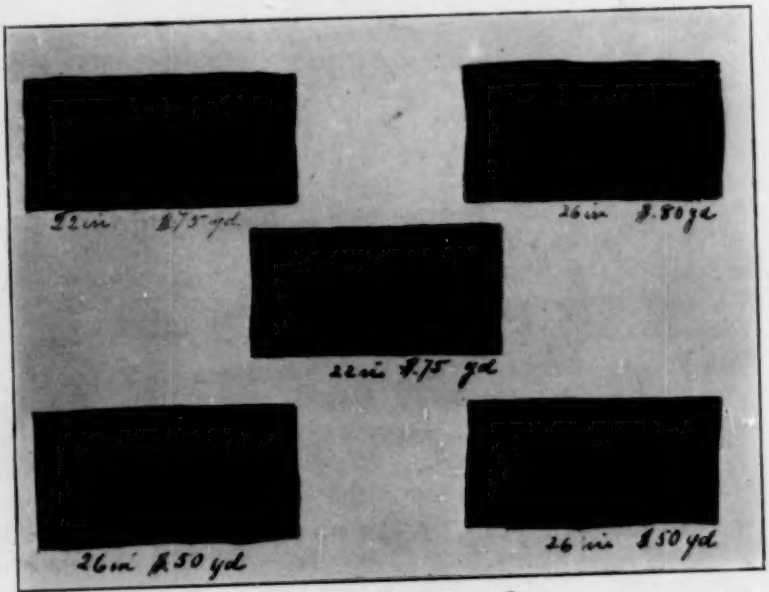
It would be interesting to study the effect on certain economic problems could the schools turn out large numbers of educated buyers. By educated buyers is meant those trained to discriminate intelligently between the true and the make-believe, in other words to know real values. There was a time when in a well-ordered home, a girl could learn processes of food preparation and garment-making in companionship with her mother. When the industries were in the home, women spun and wove their own materials. They then knew the properties and uses of the textile fibers of which they made thread and cloth. By a natural process they were taught to judge goods, and our careful grandmothers when they bought materials could tell easily of what they were made. Today the mothers buy largely ready-made garments or the machine-made textile product. Under such economic conditions it becomes vitally important that the girl should early have her interest aroused in manufactures for domestic purposes, in other words she should be trained to a habit of mind which will work that way. She will then naturally learn to appreciate a host of phenomena to which she would otherwise have been oblivious. Much of the technical training

may be forgotten just as she parts with her algebra or her French. But she cannot rid herself of certain opened brain-tracks, a quickening of mind when confronted with domestic concerns which will have their strong influence in making an efficient homemaker or wage-earner. The value to the community of this enrichment of the girls' experience would lie in a solution of some economic problems brought home to all in the increased cost of living and in helping woman to find her true place in the social system. This place should no longer be uncertain. The changing industrial conditions have made it most difficult for young women to get at home even the most meager training necessary for the easy making of her own wearing apparel or for the acquisition of the power of self-maintenance. These difficulties are slowly being recognized. The hand and brain of woman must be prepared somewhere for her part in the world's work whether in relation to the family, the shop, or the community. The problems of wise purchase, of adjusting standards of living to the weekly income and of personal responsibility in the family and the business life, are far more difficult to bring to the pupils in tangible form than the teaching of needlework. However, they are here and the faithful teacher will meet them as willingly and as conscientiously as she gives the technical drill to impart a knowledge of stitches.

To teach Domestic Art primarily to meet a personal need regardless of economic and esthetic considerations seems like rearing a structure architecturally without a safe foundation. To be of worth the lesson-content should stimulate thought, training, judgment and taste as well as hands. The esthetic side cannot be ignored. One must train taste; it can not be bought. On the other hand the textile aspect seems to furnish a basic foundation for the whole superstructure. Eliminate this and the resultant product is like a house built upon shifting sand, rather than upon a composite rock of historic, economic, hygienic, esthetic and ethical values. A child's training should help her to find herself in the complex organization in which she is born. Instead of being accepted as a matter of course, her clothing will be of vital interest when she has had a motor acquaintance with the processes of carding, spinning and weaving in simple form. A knowledge of these processes will also give a broad human sympathy for the toiler as well as open the way to an


Linen is made from the
fibre of the flax plant. It
requires a great deal of hand labor to
prepare the fibre for the loom and
to weave it.
In Scotland the skilled labor
can be had cheap and as the climate
and soil are adapted to the growth
of the flax we find in Scotland
the greatest linen factories in the
world.
The city of Belfast is the center of
the linen manufacture.
Linen is used for handkerchiefs
dress dress goods, napery, toweling
sheets, pillow-case and fancy work.
Bleached $1.50 a yd.
Dresses and Waists
Dress - Linen
Dyed $.25 and $.30
Toweling $.15 a yd.
$.18 a yd.
$.22 a yd.
Linen - Lace
Dress Linen
National Color
$.20 a yd.

PUPILS' CHART ILLUSTRATING LINEN.



PUPILS' CHART ILLUSTRATING SILK.

intelligent understanding of many social and ethical issues of the day.

In considering any school subject one must be fair and not lose sight of the difficulties which confront the grade teacher on every side. The over-large class, the time limit, the difficulty of obtaining materials and the lack of technical training on the part of her to whose judgment much of the development work must be entrusted,—all these are factors not to be overlooked. Notwithstanding these seeming discouragements, one must agree with State Superintendent Draper of New York when he says—"We must try very hard to have the child able to do some definite thing intelligently, no matter at what age we lose him." Even though the course be limited to two or more years of the elementary school, simple textile study can hardly be neglected if we desire a training that is lasting and results that are sure.

In the schools of Rochester, New York the domestic art work consists of

(a) A course in weaving for the four primary grades—girls and boys.

(b) A course in plain and in decorative needlework for the grammar grades—girls.

The textile study of the primary grades is concerned with raw materials and simple processes including thread making and the construction of a loom.

The textile work of the grammar grades is more practical in character, with the emphasis placed on present day needs. Each girl purchases her own materials for the class exercise, after a careful discussion of samples and prices. She also makes a special chart study along one line using small pieces of left-over materials and merchants' samples for this exercise. Such charts are shown in the accompanying illustration. In the Rochester school system are three Colonial hand-looms, three Barbour Linen looms and several spinning wheels. The pupils of the sixth grade have an opportunity to use one of the looms for a short time. This work is optional. The modern machine is known only through magazine illustration, language work and so on.

A few necessary notes are prepared in connection with the chart-study. Much of this side of the work being taught as language work.

In all grades, talks are given on textile raw materials and fabrics, their relation to racial development from primitive man with his simple forms of weaving, to the factories whose intricate machinery symbolizes the complicated life of to-day.

Outline of the Textile Course.

First Grade—Talks on the sheep and wool; simple story of raw material; washing and dyeing; meaning of warp and weft.

Second Grade—Talks on cotton; simple story of raw material; meaning of warp, woof and selvedge.

Third Grade—Talks on flax and hemp; carding and spinning. Making of primitive spindle and whorl, showing the evolution of the spinning wheel. Making of woolen yarn.

Fourth Grade—Simple talks on silk; worm, cocoon, raw material, manufactured articles. Making of crude loom with heddle and shed stick.

Fifth Grade B—Brief study of cotton and flax. Chart showing raw materials and products. Comparison of cotton and linen materials. Review of steps in weaving learned in the lower grades.

Fifth Grade A—Talks on children's clothing. Chart showing textile materials suitable for different seasons and climates. Shapes of garments to avoid restriction; danger and discomfort of over-tight bands.

Sixth Grade B—Brief study of wool and silk. Chart comparison of cotton and wool, of linen and silks, of mercerized cotton and silk, of wool and silk. Directions for cleansing hair-ribbons.

Sixth Grade A—Chart study of one or more European manufactures (correlated with geography). Tartans, tapestries, laces, linens, silks (Select one). Chart study of fast and fugitive colors. Effects of sunlight and alkali soaps on colored fabrics.

Seventh Grade B—Chart study of materials suitable for a school dress; for use in a sick room. In selection of fabrics consider durability, suitability and cost. Removal of ink, iron rust and grease spots.

Seventh Grade A—Make a chart study of a girl's dress, with simple trimmings; estimate cost. Discuss prehistoric methods of weaving, home processes in the Colonial period; the interdependence of home-processes and present-day industries.

Eighth Grade B—Make a chart showing the relative changes produced by shrinkage; effects of soap and water on cottons; on woolens; on artificial silks.

Eighth Grade A—By means of a chart show the use of cleansing fluids other than water—naphtha, benzine, ammonia, milk, turpentine. Danger of gasoline, etc. Dry cleaning. Adulterations, shoddy, flocks, paper, cellulose.

EDITORIALS.

An American Pioneer in Nutrition Investigations.

As announced in the April number of the JOURNAL, it seems worth while to call attention to the work of the early investigators and writers on nutrition and other Home Economics topics, and particularly to the work of Americans. As yet the earliest American investigations on nutrition of which record has been found are those of John R. Young, which are reviewed in this number. Doctor Young, of Hagerstown, Md., was graduated from the Medical Department of the University of Pennsylvania in 1803, and submitted as a thesis a report and discussion of investigations on the principles of nutrition and the digestive processes. For some time attempts to obtain additional information regarding Doctor Young and his work were unsuccessful, but as a result of correspondence with the Faculty of Physic of the University of Maryland it has been learned that Doctor Young died in Washington County, Md., on June 8, 1803, almost immediately after his graduation. It is hoped that it may be possible to secure more data regarding Doctor Young as his work is not only valuable in itself but has a special interest in connection with the history of scientific research in the United States. Unless some other institution can show priority, to the University of Pennsylvania belongs the honor of having instituted in this country the experimental study of nutrition problems, and Doctor Young of Maryland is the pioneer investigator.

Cleanliness in Markets, Hotels and Restaurants.

In this number of the JOURNAL two articles appear which have to do with the cleanliness of food outside the home. An examination of the publications of State and municipal boards of health, of scientific and professional journals, and of the daily press shows that the subject of clean food is rapidly coming to the fore. Men and women are recognizing that cleanliness in markets, in bakeries, on dining cars, and in hotels and restaurants is not a privilege but a right. Oftentimes the filthy practices to which we object are due to ignorance of what is fitting and decent. The waiter who wipes his forehead

and a dish on the same service towel perhaps does not realize that what he does is objectionable, nor does the market man who exposes food to flies and dust, nor the baker who makes cake with unwashed hands. Both small and large offences of this sort will disappear when a sufficient number of us unite our protests in an effective way and insist on right standards of cleanliness in all that concerns the production, distribution and sale of food. To cite an instance of the progress being made in such line, this year legislation has been enacted in the State of Indiana which covers the question in an effective and intelligent manner.

Nutrition Work of the Carnegie Institution of Washington.

Although the equipment and occupancy of the new Carnegie laboratory at Boston for nutrition research, referred to elsewhere, is of comparatively recent date, the participation of the institution in investigations in nutrition is of much longer standing, this line of research being one of the first which it fostered. The Carnegie Institution of Washington early recognized the value of the metabolism experiments which were being carried on as a part of the nutrition investigations of the U. S. Department of Agriculture, and one of the earliest projects to be undertaken (Grant No. 5) was begun in 1903 when an allotment of $5,000 was made to Professor W. O. Atwater for additional experiments in nutrition. This and a subsequent grant were expended largely in co-operation with the Office of Experiment Stations in the improvement of the respiration calorimeter at Middletown, Conn., by the addition of apparatus permitting of the direct measurement of the oxygen consumed by the subject. Following the completion and testing of the apparatus, the inauguration of what is believed to be the most elaborate series of experiments on metabolism during inanition ever undertaken was authorized by the Carnegie Institution and conducted under its auspices with the respiration calorimeter at Middletown, Conn., by Doctor Francis G. Benedict, who succeeded to the direction of the nutrition investigations at Middletown after illness had compelled Professor Atwater to give up all work.

Such importance and promise attached to this project that the permanent recognition of nutrition research as a major department of the work of the institution was decided upon in 1907 and organized on the present permanent basis. After careful canvass

of the situation, Boston was selected as the locality most favorable for the site of the Nutrition Laboratory, all things considered. About the same time as the removal of this Carnegie Institution nutrition work from Middletown to Boston, the Department of Agriculture nutrition investigations were centralized in Washington and the respiration calorimeter removed to the new building of the Department of Agriculture, this work being under the direction of C. F. Langworthy. With these changes the researches on human nutrition organized by Professor Atwater and covering 20 years or more were brought to a close at Wesleyan University.

The Carnegie Institution has also made numerous grants for projects in nutrition other than that referred to above and several lines of research are in progress. Among other projects may be mentioned the grant in 1903 to the late Professor Arthur Gamgee for the preparation of a report on the physiology of nutrition, the extensive researches on the hydrolysis of the vegetable and other food proteids still being conducted by Doctor T. B. Osborne of the Connecticut State Agricultural Experiment Station at New Haven, the work carried on by Professor Russell H. Chittenden and his associates at the Yale Sheffield Scientific School relative to the minimal proteid requirements of man and other animals and the influence of hydrazin upon intermediary metabolism, and the studies of the physiology of growth, especially as regards its chemical processes, by Professor Lafayette B. Mendel, at the Sheffield Scientific School. Regarding the work of Professors Benedict, Osborne, Chittenden, and Mendel, an excerpt from the report of the President of the Carnegie Institution for 1906 is of interest as showing the institution's attitude toward nutrition research:

"All three of these lines of research are of great practical and theoretical importance, whether considered independently or collectively. They are closely related, however, and when considered as parts of a whole they give promise not only of extensive additions to our knowledge of the physics and chemistry of normal nutrition, but also of extensive additions to our knowledge of the conditions of and the remedies for abnormal nutrition. All three lines of work appear to me, therefore, well worthy of continuous support for such periods of time as may be essential to secure the anticipated results."

THE DENVER MEEETING OF THE AMERICAN HOME ECONOMICS ASSOCIATION JULY 7-9, 1909.

The American Home Economics Association will hold a meeting in connection with the National Education Association at Denver, Colo. The headquarters of the Association will be at the Hotel Metropole.

The program as arranged provides for separate sessions on Wednesday and Thursday mornings and Wednesday evening, July 7 and 8. The relation of some of the National Education Association sessions is shown below.

AMERICAN HOME ECONOMICS ASSOCIATION PROGRAM.

Wednesday morning, July 7.

Round Table Conference. The High School, Opportunities and Duties.

(Those who can, will be interested to attend the meeting of the National Education Association Department of Science Instruction Session on the High School, on Tuesday afternoon, July 6).

Wednesday evening.

A general meeting with addresses.

It is hoped to secure as speakers:

President Lorenzo D. Harvey, President National Education Association; Mrs. Ellen H. Richards, Massachusetts Institute of Technology, President of American Home Economics Association; Dr. A. C. True, Director, Office of Experiment Stations, Department of Agriculture; Mr. S. Robert Hoover, West High School, Cleveland, Ohio, President Department of Business Education, National Education Association; Doctor Thomas D. Wood, Teachers College, New York; President George E. McLean, President University of Iowa; James F. Chamberlain, State Normal School, Los Angeles; Mrs. Olaf N. Guldlin, Chairman Home Economics Department, Federation of Women's Clubs; Miss Emma S. Jacobs, Director of Domestic Science, Public Schools, Washington, D. C., and others.

These addresses will be followed by a social hour for acquaintance.

Thursday morning, July 8.

Round Table Conference. Teachers' Problems in Domestic Art and Science.

Some of the meetings of the National Education Association on Thursday afternoon, Friday morning, and Friday evening are of special interest in relation to the program of the American Home Economics Association as shown by the following, selected from the National Education Association program.

Thursday afternoon.

DEPARTMENT OF ELEMENTARY EDUCATION, NATIONAL EDUCATION ASSOCIATION.

Application of the Household Arts and Sciences to the Elementary School—Mrs. Ellen H. Richards, Massachusetts Institute of Technology, Boston, Mass.

Discussion.

Friday morning, July 9.

DEPARTMENT OF MANUAL TRAINING, NATIONAL EDUCATION ASSOCIATION.

Influence of Industrial Arts and Sciences upon Rural and City Home Life—Cree T. Work, President of College of Industrial Arts, Denton, Tex.

Discussion from standpoints of:

(*a*) Domestic Science—Mrs. Ellen H. Richards, Instructor in Massachusetts Institute of Technology, Boston, Mass.

(*b*) Domestic Arts—Miss Helen Schurz, Teacher of Sewing, High School, Topeka, Kans.

(*c*) Economic Interests—Albert Salisbury, President of State Normal School, Whitewater, Wis.

General discussion led by Miss Harriet A. Boyer, Head of Domestic Science Department, Isadore Newman Training School, New Orleans, La.

Friday afternoon.

DEPARTMENT OF NORMAL SCHOOLS, NATIONAL EDUCATION ASSOCIATION. JOINT MEETING WITH THE DEPARTMENT OF TECHNICAL EDUCATION.

1. The Training of Teachers for Industrial and Technical Schools—(Speaker to be supplied).

General discussion.

2. Round Table Topics.

(*a*) Who Should Determine Standards and Courses for the Training of Teachers and How Should Such Standards be Determined?—A. O. Thomas, President of State Normal School, Kearney, Nebr.

(*b*) Should the Normal Schools Teach Subject-Matter or Should Their Work Be Wholly Professional?—Francis J. Cheney, President of State Normal and Training School, Cortland, N. Y.

(*c*) The Davis Bill in Its Relation to Normal Schools—Report of Special Committee on Agricultural and Industrial Education—Homer H. Seerley, President State Normal School, Cedar Falls, Iowa, Chairman.

Members of the American Home Economics Association who go to Denver will be interested to consult the full program of the National Education Association meetings of which copies may be secured from the Secretary, Irwin Shepard, Winona, Minn.

Among the features of special interest from the standpoint of Home Economics are the addresses on Application of the Household Arts and Sciences to the Elementary Schc l, Mrs. Ellen H. Richards; How may the Rural Schools be More Closely Related to the Life and Needs of the People, by D. J. Crosby, Specialist in Agricultural Education in the Office of Experiment Stations, U. S. Department of Agriculture, Washington, D. C.; Agricultural Education for the Rural Districts, by S. A. Knapp of the Farmers' Cooperative Demonstration Work, U. S. Department of Agriculture, Washington, D. C.; The Present Status of Agricultural Education in the Public Schools, by E. C. Bishop, Nebraska State Superintendent of Public Instruction; A High School Course in Drawing and Applied Arts, by W. H. Elson, Superintendent of Instruction, Cleveland, Ohio; and the report of the committee on University Entrance Examinations in Art, by A. B. Clark, Leland Stanford Jr. University. For programs address Irwin Shepard, Secretary, Winona, Minn.

AMERICAN HOME ECONOMICS ASSOCIATION SECOND ANNUAL MEETING.

The Second Annual Meeting of the American Home Economics Association will be held in Boston, Mass., at the time of the winter meeting of the American Association for the Advancement of Science. December 31, 1909 and January 1, 1910, are the dates chosen.

The council will meet on Thursday, December 30, as required by the constitution.

Associate membership ($3.00) in the American Association for the Advancement of Science entitles one to the special railroad rates which will be secured and to participation in the many events planned for the week. No separate rates will be made for the Home Economics Association.

The sessions will be of three kinds:

1. A business session with opportunity for an adjourned meeting, for the election of officers to consider the future policy of the Association. Letters in regard to this may be sent to the Secretary by those who cannot be present. The fullest expression of opinion is desirable as the Association must be thoroughly democratic in character. The "trial" policy of the year should make this possible.

2. One or two sessions with short addresses for inspiration and encouragement from the leading men and women who will be in Boston during the week.

3. A social session for better acquaintance.

The annual dinner of the Association will be held on Friday evening.

A strong New England section is being organized and will serve as a local committee.

MEETING OF THE EXECUTIVE COMMITTEE.

At the meeting of the Executive Committe of the American Home Economics Association in New York City on Saturday, April 24th, a certificate of incorporation was drawn up and formal action taken to incorporate the Association, pursuant to the membership corporation law of the State of New York. The certificate was later approved by Justice Dowling, of the New York Supreme Court, and officially recorded in the office of the Secretary of the State of New York, on May 12th. The formal incorporators were the members of the Executive Committee present at the meeting, Mrs. Ellen H. Richards, Miss Helen Kinne, Mrs. Alice P. Norton, Miss Mary S. Snow, Mr. B. R. Andrews, and Dr. C. F. Langworthy, and these persons, with Miss Isabel Bevier, Miss Caroline L. Hunt, Miss Emma Jacobs, and Miss Mary U. Watson, who together form the Executive Committee of the Association, are by the articles of incorporation made the "directors" of the corporation until its first legal meeting. To meet the requirements of law, the Association will at that meeting re-adopt its by-laws and re-affirm its choice of directors.

At the meeting on April 24th the Executive Committee voted to hold the next meeting of the Association in Boston, December 31 and January 1. The Council of the Association will, according to the constitution, meet on the day preceding, viz, December 30, 1909.

The Committee voted to ask Mrs. Mary Hinman Abel, of Baltimore, to become Editor of the JOURNAL OF HOME ECONOMICS, with the cooperation of the Executive Committee of the Association, beginning with the September issue Mrs. Abel has since accepted this position.

BENJAMIN R. ANDREWS,
Secretary.

SCHOOL OF HOUSEHOLD ARTS.

Teachers College, New York.

The Trustees of Teachers College, Columbia University, recently approved the establishment of a School of Household Arts, which is to continue and amplify the instruction for many years carried on by the Departments of Domestic Science and Art at Teachers College. It proposes to be a school of collegiate rank, devoted to the household arts and sciences and intended to train not only teachers of these subjects, for public and collegiate education, but also professional workers who will find service as managers of large domestic and institutional households, and in their special constituent fields, as hospital management, dietetics, interior decoration, laundry management, etc.

The new building of the School of Household Arts, will be fully completed and equipped at the opening of the next academic year, in September. Joining the main building of the College it extends 160 feet along 121st Street, with a depth of 60 feet, thus affording over an acre of floor space. There are five floors, a basement, and a tower of two additional stories. The basement will contain two laboratories for laundering, and lockers and dressing rooms. The ground floor will be devoted to offices, lecture rooms and the departmental libraries and museums. The second floor will contain three large and several small cooking laboratories; the third will provide equal accommodations for work in garment making, dressmaking, millinery and allied lines. On the fourth floor there will be six laboratories for food chemistry and the physiology of nutrition. The fifth will be devoted to instruction in designing house construction and decoration, textiles and costumes, and to a model experimental apartment of seven rooms and a laboratory for nutrition research.

The School of Household Arts will offer, for teachers, degree and diploma courses in the teaching of domestic art, domestic science, and hospital economy; in preparation for technical callings, it will offer certificate courses in household administration, dietetics, and house decoration; opportunity is offered for specialization in other professional lines as costume design, institutional laundries, social work, etc., and over a score of "special classes" offer practical training in various lines.

NEWS FROM INSTITUTIONS.

Florida State College. The Florida State College for Women at Tallahassee, was established in 1905. At the same time the University of Florida was founded for men. While both colleges maintain the same standard for entrance and for graduation, yet the authorities recognize the right of women to have their special needs considered, and they have placed home economics on an exact equality with mathematics, history and the classics. Domestic science and domestic art are electives in the Freshman and Sophomore years in the course leading to the B. S. degree in the College of Liberal Arts, and in the School for Teachers sewing is required in the second year and cookery in the third. The Science Department offers courses in household and economic botany and in domestic science chemistry which follow the two years work in the Home Economics Department.

Within the next year it is hoped to have a new building with all modern equipment. Just now the Department occupies three rooms: a large laboratory kitchen, a dining room and a sewing room.

Seventy young women are enrolled in the Department out of a total enrollment of two hundred in the College.

Miss Catherine A. Mulligan, the Professor of Home Economics is again to have charge of the work in Domestic Science at the Summer School of the South, at Knoxville, Tenn., June 22–July 30.

Pratt Institute. Miss Edith Greer, Director of the Department of Domestic Science, Pratt Institute, will remain abroad until September.

The Dietitian Courses at Pratt Institute are exceptionally popular. The field for the trained dietitian is broadening so rapidly that supply and demand are completely unbalanced. The women of maturity who are willing to take a year of disciplinary training have an assured and very interesting outlook.

Pratt Institute, Brooklyn, has this winter been conducting a course of lectures on nutrition in which many prominent scientists have appeared. Among the lecturers have been Dean Russell of the College of Agriculture of the University of Wisconsin, and Professor Chittenden of Yale University.

Teachers College. The Home Economics Club of Teachers College, held a meeting on Wednesday, March 10, 1909. The purpose of the meeting as outlined by the president, Miss Elizabeth Johnson, was to clear up many questions that had arisen as to how to organize a Home Economics Club, what such a club could do, and how the club could be made valuable to its members and the community.

Miss Kinne, the first speaker, urged that informal organization was often the best way to start a professional society. As a concrete instance, the origin of the New York Home Economics Association was cited, which

grew out of informal meetings called to discuss the warfare against tuberculosis. The opportunity to address mothers' clubs was emphasized as a valuable means of reaching the homes, also the inspiration to be gained from such meetings and from the open discussions which follow. The need of a practical, rather than a theoretical basis for the subject presented to such clubs, was pointed out as of vital importance. Adaptation to the surroundings and the audience was mentioned as a very desirable attribute in such addresses.

Miss Lydia Southard, the next speaker, took as her theme the thought from Emerson: "He who gives us better homes, better books, better tools, a fairer outlook and a better hope, him will we crown with laurels." An atmosphere of contentment and repose was cited as a great need of the home in addition to the improvement in cooking, sanitation and house furnishing, which is the usual object in home economics teaching. Miss Southard suggested the possibility of a wide field for the Home Economics Club in furnishing information with regard to rentals, marketing and other shopping facilities to strangers coming to live in the city, and to present residents who may desire such information. As to better books, the point was made that not only were technical and popular books relating to the home desirable, but also books that will "stimulate thought in new channels, books to broaden and truly educate." Investigation and reports upon the value of labor-saving devices which tempt the housewife might be carried on by committees in the Home Economics Club. By putting the community into touch with the best thought of the times by means of stimulating speakers as well as worthy books, would do much toward bringing to all "the fairer outlook and the wider hope."

The question of keeping in touch with legislation of interest to the home and the home economics movement, was the subject of Mr. Benjamin R. Andrews' address. He spoke from the standpoint of the secondary school organization, as well as the adult club. He outlined the possibility of studying the local regulations which have to do with the household, building regulations, garbage disposal, etc. He also urged the advisability of keeping in touch with new legislative projects, information about which may be obtained from members of the State Legislature and of Congress. From the standpoint of the adult club, Mr. Andrews suggested that a definite stand should be taken for or against the proposed bills, and that the local members of the Legislature should be informed of the attitude of the Club.

Mrs. Lulie Wiles Robbins told of the problems connected with the neighborhood work at Speyer School. She suggested the possibility of experimental work with afternoon and evening classes at Speyer School. She emphasized the fact that regularity and persistent endeavor were essentials in maintaining such work.

The value of a Home Economics Club to the members and to the community was discussed by Cora M. Winchell. Enthusiasm and active work were defined as essentials for success, upon which, to a great extent, depends the actual value to be derived by the members. The inspiration to be gained from contact with others who are working on similar problems

and from "Round Table" discussions, were mentioned as a source of benefit; and the possibility of a room devoted to reference books and illustrative material was suggested. Technical, educational and general lectures by representative men and women; social meetings with brief addresses and open discussions, and exhibits, some technical and some of interest to the general public, were mentioned as sources of value to both the members of the club and to the community. As a means of broadening the interests of the home, co-operation with the Municipal League, Consumers League, social settlements, the health department and other similar organizations, was recommended. Social interests were urged as an essential addition to the manysidedness of the successful Home Economist.

On March 17, 1909, the Departments of Domestic Art, Hospital Economics and Domestic Science were entertained by the Home Economics Club. Symbolic favors signified the department to which each guest belonged. Dean Russell addressed the Club and outlined very clearly the policy of the College for the coming year. Economy would be emphasized, he said, in every department in both equipment and supplies. This was urged because of the fact that the ideals established by elaborate equipment and unlimited supplies, cannot be realized by the students in their work after they leave the school. A study of family expenditures as related to income was defined as one of the most vital problems to be met and solved. Dean Russell said that he had heard of objections to the idea that the American public should be taught how to save. He stated that he believed that living expenses could be very materially reduced through a careful and systematic education in how to spend rather than how to save, and toward such an education, with all it involves of technical information and sound judgment, would Teachers College lend its efforts during the coming year.

University of Missouri.

The survey course on home economics described in the last Lake Placid report is being given this year very much as outlined, and to twice as many students as last year.

A graduate student working on salt-rising bread has proved that the action is due to living organisms and not due to an unorganized enzym as has been suggested. Whether it is a yeast or a bacterium has not yet been determined.

Miss Louise Stanley, Instructor in Home Economics, and Mrs. C. W. Greene, a graduate student, are doing some interesting work on the cooking of meat in connection with the large investigation carried on by the Department of Agriculture on beef production. The full history, the chemical composition, and the histological structure of the meat used in the investigation are known, so that they have a better basis for their work than any previous investigators of this question.

Thinking the recreation side of the home to be of great importance, we expect to include in our four-years curriculum in Home Economics a course on the Theory of Play and one on the Practice of Play under Dr. C. W. Hetherington, Head of the Department of Physical Education.

University of Illinois. The fourth annual session of the School for Housekeepers was by far the most successful in the history of the school both in regard to numbers and interest. The registration was 101. Thirty-one counties were represented. The Experimental House was a source of much interest not only to the members of the school, but also to the citizens of the Twin Cities. During the month in which it was open there were as many as 81 visitors in one day. The lectures on "Home Care of the Sick" by Dr. Jennie M. Hughes were much appreciated. The most general interest, however, was manifested in the study of foods. This work was under the direction of Miss Helena M. Pincomb, assisted by Miss Nelle Miller, '05.

For the past month Miss Helen Scott Hay, Superintendent of the Illinois Training School for Nurses, Chicago, has been giving lectures to the general public and instruction to the class in dietetics. A feature of this instruction which has been much appreciated has been the use of one of the bedrooms of the Experimental House fitted as a room should and can be for an invalid in the ordinary home. The class has had the advantage of caring for a patient in the bed and instruction in changing of bed clothes, lifting the patient and giving baths. Much interest has been manifested in these lectures on the part of both the public and students. Miss Hay has shown rare discrimination in the points selected and the lectures apparently meet a universal need. The following is a general outline of the lectures and lessons: Introductory, disease, its cause and prevention, conditions in the home and environment, qualifications of caretaker, sick room and equipment, beds and bed-making, care of patient in bed, baths, nursing in fevers, care of the convalescent and aged, medicine, applications, appliances, enemata, observation of symptoms, records, first lessons in surgery and care in contagious diseases, emergencies and tuberculosis.

The annual meeting of the State Farmers Institute was held at Rockford, Illinois. The Department of Household Science of the Institute held separate sessions for three days at which matters of general interest were discussed. The Household Science department of the University of Illinois was represented by Miss Bevier by two addresses, one on Lessons in Bread Judging, and another on Art in the Home.

The Department has been gratified to receive from a former graduate Miss Agnes Hunt, '08, now of the College of Hawaii in Honolulu, a collection of different varieties of tapa, baskets and fans, showing the different processes of manufacture as well as different materials used in the Islands.

New York University. The Department of Domestic Science of New York University was organized in the summer of 1908 with very bright prospects for the future.

An equipment for twelve students had been provided, but as the enrollment on the first day was much larger, it was necessary immediately to supplement it. This caused some delay, but the time was more than made up later, and it proved such a successful summer under the able instruction of Miss Katherine Christian, that many who took the work,

have expressed the intention of entering the advanced course, to be offered this year. Everything will be in readiness for the opening of the 1909 session of the summer school on July 1st. Miss Christian will be assisted in giving the work by Miss Elizabeth Crisman, Teachers' College.

The laboratories where the work is conducted are in the Havemeyer Chemical Building, which from its high elevation overlooks the Harlem and the Hudson Rivers and commands a view of the Palisades and the Catskills in the distance. So with its elevation, low temperature and favorable breezes, University Heights is an ideal place for summer work.

The Woman's College of Baltimore.

A course of lectures on the general subject of nutrition has been given by the college in conjunction with a committee of the Alumnae Association, as follows:

April 8, Food Principles, April 9, Digestion, Dr. Wm. J. Gies, Professor of Physiological Chemistry, College of Physicians and Surgeons, New York City; April 13, The Functions and Selection of Food, Dr. Henry C. Sherman, Professor of the Chemistry of Nutrition, of the School of Chemistry and Teachers' College, New York City; April 15, Assimination of Food, April 16, Utilization of Food, Dr. Wm. H. Howell, Johns Hopkins University; April 20, The Respiration Calorimeter, Dr. H. P. Armsby, of the Pennsylvania State College and Institute of Animal Nutrition; April 22, Possibilities of Danger from Inadequate Preparation of Food, Dr. C. W. Stiles, Chief of Division of Zoology, United States Public Health and Marine Hospital Service.

Middlebury College.

On Arbor Day President J. M. Thomas and the Faculty of the college, Governor Prouty, the students and townspeople of Middlebury, Vt., assembled, and the college took possession of a tract of land presented by Hon. Joseph Battell for a campus for the woman's college. The property consists of about thirty acres and adjoins the men's campus. A fund has been completed for the erection of a woman's building and other improvements. The summer courses at the college this year are to include Home Economics, and special stress will be laid on the educational, as well as the vocational, value of the subject. Home Economics will be an important feature in the work of the woman's college.

University of Vermont.

The local Alumnae Club is endeavoring to raise $1,000 to be used in providing equipment for a course in Household Economics contemplated by the University. As a means to this end, a series of four lectures on home economics is in progress.

NEWS FROM THE FIELD.

Women's Institutes in Ontario.

The Ontario Department of Agriculture has issued a handbook and also a report of the women's institutes of the Province of Ontario for 1908. The superintendent of institutes, Mr. George A. Putnam, has organized the woman's work on a very interesting basis. There have been established in the province women's institutes which have regular times for meeting with a program bearing upon home subjects. The total membership in these institutes is 12,000 and in the year ending June, 1908, there have been held 3868 meetings with an aggregate attendance of 93,780. The hand-book shows the object of the organization, the constitution usually adopted in each institute, and a general report of the work done, besides suggested topics for study. Once a year a round-up meeting is held at the College of Agriculture, Guelph, with a program extending over three or four days in which definite teaching is done in Domestic Science. These addresses are printed in the report of the women's institutes and serve as a partial basis of work for the institutes held during the year. The report thus makes a valuable contribution to the literature on Domestic Science.

Plans for Women's Clubs.

The Home Economics Committee of the General Federation of Women's Clubs has instituted a campaign for the extension of home economics interests in women's organizations in this country. A plan of campaign has been drawn up and submitted to the State Committees on Home Economics. It outlines the aims set for the Home Economics work of women's clubs as follows:

"1st. To have Domestic science taught in your Public Schools.

"2d. To have Home Economic books put in your City Libraries.

"3d. To try to have your Clubs have at least one program each year on this subject.

"4th. To have one session of your State Convention devoted to this subject.

"5th, If a session is not possible, you can at least arrange Round Table Talks when you take up various interesting phases of the work, in order to show the Clubs what a thoroughly comprehensive and interesting subject you represent, and how much valuable information can be given out at such a discussion.

"6th. To arrange with your State Agricultural Colleges and Universities to secure from them, people prepared in this line of work to talk before your Conventions and Clubs and if possible to send out from them, instructors who can give short courses in places where you may arrange.

"7th. To send in a record of your State speakers, work done; also the members of your State Committee that a record may be kept of whatever is done and passed on to others, who need this help."

In connection with Home Economics work in Indiana Mrs. O. N. Guldlin Chairman of the Home Economics Department of the General Federation of Women's Clubs writes:

"In carrying on our work the Women's Clubs are greatly indebted to the American Home Economics Association. We need your trained experts and also the splendid material that you have taken years to accumulate. As a rule it is not hard to obtain workers, if we can show that we are doing things of real value for the home and society.

"The different State reports bring valuable records which I hope to send you. The indication of these reports is the broadening influences of the club movement; we must realize that our clubs are not for a few favored members, but that we are to be the mouth piece and carry the results of great movements and transforming influences into our social and domestic life. Often we can be the means of focusing the attention of other organizations, churches, institutions, etc., upon one great object, so that we can make possible, valuable opportunities for our common growth.

"It is this cooperation of all for one common purpose, that can complete our municipal and state life.

"In Indiana, we have done a few things that show the result of this mutual cooperation. Professor Barnard of the State Food and Drug Commission says that although the laws of Indiana are now very stringent in their line, the board hopes to accomplish its work almost entirely by the educational processes. With lantern slides a speaker from the Commission shows the condition of the groceries, bakeries, restaurants, drug stores and dairies before and after they are cleaned. Through the agency of the women, especially those of the Federated Clubs they have been able to make Terre Haute a model city in this respect. The women arranged for a meeting in which the subject was presented. A committee of them, went with a member of the Commission and had white labels printed that were posted in each shop window after the transformation had taken place. Professor Barnard hopes to introduce the 'Terre Haute plan' all over the State.

"The members of the Richmond Domestic Science Club helped to furnish a kitchen in the Finley School. They also paid for the teacher's services. The letters from the children to the club express the appreciation of the parents and children for this work, and the plan has worked so successfully that the School Board is expecting to put a Home Economics Department into the new High School that they have just started.

"This club also recently had a very successful course of lectures upon this subject by Mrs. Burton Smith of Atlanta, Ga.

"At Ft. Wayne, the Home Economics department of the Woman's League, thanks to the kindness of our School Board, is able to conduct an evening class each year in the High School Domestic Science Department.

"Purdue University has recently added to its curriculum a home economics department, and Professor Henrietta Calvin of Purdue is a great help in the work in Indiana. She had in addition to the regular college work, a short course for housekeepers. She also gives talks before our Clubs and is a member of our State Federation Committee. Miss

Josephine Berry, one of her associates at Purdue goes over the State to talk before farmers' institutes, and Mrs. Virginia Meredith is always ready to help on the work with her vigorous talks and we feel we can thank her for much of the interest in this subject that exists in Indiana."

Centers for Housewifery. Under the heading, Teach Domestic Art, Centers for Housewifery, the *Milwaukee Free Press* of January 23, 1909, reports an address by Principal Thomas W. Boyce of the First District School, in which he said:

"Housewifery centers are a special branch of education in the English schools that impressed me as much as anything I saw in Europe. This system is seen at its best in Liverpool, where a three-story house has been rented by the school board and is occupied by five teachers, who sleep there making the building a real home.

"To these teachers eighty girls come every day for tuition in housewifery arts. They are divided into squads of sixteen. One squad is assigned to cook meals for one week for teachers and scholars. Another is assigned to the laundry work, and this is a science in itself. It does not consist in merely running the clothes through the tubs and drying them. Another squad cares for the house, sweeping, cleaning and dusting. And dusting and sweeping, if it is well done, becomes an art. Another set makes clothing for the others. Besides the actual work going on with trained inspectors over the students, each girl is obliged to attend a series of lectures on the care of children.

"At the end of the week each squad is given different work to do. These girls when they finish the course are qualified scientifically to care for a house, and their minds have been trained in the process of learning this, for educators of today feel that as much mental training is derived from learning properly to hem a napkin or dust a parlor as in learning a page of Latin."

Home Economics in Great Britain. The following list of institutions offering courses in home economics has been furnished, by request, to the JOURNAL OF HOME ECONOMICS by Miss Alice Ravenhill of London, England:

Bath—School of Cookery and Domestic Science.

Birmingham—Training School for Teachers of Cookery and Laundry Work.

Bristol—Municipal Training School of Domestic Science.

Cardiff, South Wales and Monmouth Training School of Cookery and the Domestic Arts.

Gloucester—Gloucestershire School of Domestic Science.

Leeds—Yorkshire Training School of Cookery.

Leicester—Municipal Training College for Domestic Subjects.

Liverpool Training School of Cookery.

London, Battersea—The Polytechnic, Battersea Park Road, S. W.

London, Holloway—The Northern Polytechnic, Holloway Road, N.

London, Lambeth—The National Society's Training School of Cookery.

London, Westminster—The National Training School of Cookery, 72–8, Buckingham Palace Road, S. W.

Manchester—School of Domestic Science

Newcastle-on-Tyne—Northern Counties Training School of Cookery.

Norwich—Norfolk and Norwich School of Cookery.

Preston—Harris Institute.

Sheffield—School of Cookery and Domestic Science.

Trowbridge—Wiltshire School of Cookery.

Cheltenham—Ladies College, (Principal Miss Faithfull).

London—King's College, Women's Department, 13 Kensington Square, W. (Principal, Miss Oakeley).

London, Acton—Haberdasher's Aske's Girls' School, S. W. (Principal Miss Gilliland).

London, Clapman High School, The Lodge, 63 South Side, S. W. (Principal Mrs. Woodhouse).

London, Blackheath—Blackheath High School for Girls Wemyys Road, S. W. (Principal Miss Gadesden)

Leeds—Girls' High School, Headingley Hill, (Principal Miss Lowe).

Ireland, Dublin—National Training School of Cookery, Kildare Street.

Scotland, Edinburgh—School of Cookery and Domestic Economy, Ltd., 34, Atholl Crescent.

Ireland, Dublin—Alexandra College, (Principal Miss White).

The Philadelphia Alliance for Lessening Infant Mortality.

On call of Dr. Joseph S. Neff, director of the Philadelphia Department of Public Health and Charieties, a conference was held at the mayor's office April 23, 1909, to organize a movement in Philadelphia of an educational character with a view to reducing the large infant mortality in that city. The conference was opened by Mayor Reyburn who was elected Honorary Chairman. After the consideration of the purpose for which the meeting was called, the conference organized into an association of which the title is The Philadelphia Alliance for the Care of Babies. It is under the auspices of the Department of Public Health and Charieties, Board of Education, Congress of Mothers, Home and School League, and allied associations. Dr. Neff was elected chairman of the organization and Howard Cooper Johnson, treasurer.

A committee of six consisting of the three officers and three members was appointed with power to act to devise methods for carrying on the work of the organization. After discussion of some business matters the meeting was addressed by Mayor Reyburn; Dr. Neff; Mrs. Frederic Schoff, President of the National Congress of Mothers; R. E. Miles, President of the Children's Conference in New York; Dr. C. F. Langworthy, in charge of Nutrition Investigations, Department of Agriculture, Washington, D. C.; B. H. Rawl, Chief of Dairy Division, Department of Agriculture, Washington, D. C.; Dr. Theodore Dreiser, Editor of the *Delineator*, New York; and Miss Edith Howe, of New York.

In general the speakers discussed the need for work which will lessen infant mortality in Philadelphia; the success of such movements in other

cities; plans for securing a pure milk supply; house and market sanitation with reference to the health of the mothers and other members of the family and related topics. The conference was attended by about 75 men and women prominent in Philadelphia scientific, philanthropic, and other activities for the public good.

Immediately after the meeting the conference began its work in accordance with plans outlined at the time of organization. Four fixed sub-committees have been appointed on the procurement of halls; ward organization, and audiences; on the procurement of lecturers; and on the care of babies. The title of the last named committee does not clearly indicate its work, but it will be the duty of members to care for young babies while their mothers are attending various lectures and conventions given by the Alliance. The use of public school buildings for lectures was tendered the Alliance by Dr. Martin G. Brumbaugh, Superintendent of Schools in behalf of the Board of Education and this will enable the Alliance to reach a certain number of women. The sub-committee having this matter in charge is now endeavoring to secure the use of halls belonging to different business men's associations in various sections of Philadelphia where an entirely different group of women can be reached. The sub-committee appointed to secure lecturers will ask for volunteers from Philadelphia physicians and nurses and will also have the services of the physicians in the employ of the city doing school inspection on contagious diseases and charity work,—one hundred in all. The committee on ward organization and audiences of which Mrs. Frederic Schoff is chairman has appointed on her committee a woman from almost every ward in the city to act as chairman of sub-committees of women in their own ward whose duty it will be to aid in procuring audiences and to visit young mothers in their districts. To aid in locating young mothers Dr. Neff has had from thirty to forty thousand cards prepared in the Philadelphia Division of Vital Statistics giving the names and addresses of all those who have given birth to babies within the last year and a half.

As an important part of the work of the Alliance, Dr. Neff has already arranged for the young babies in the municipal institutions to have fresh air during the summer. A floating hospital in the river will be used and a location in Fairmont Park has been selected to which the babies will be taken daily during the hot term. Dr. Neff proposes to extend this movement to cover the entire city and will procure the use of parks and river boats where babies can be taken care of.

A circular has been prepared giving the lectures and general outline of the ground to be covered by the work of the Alliance. This is in addition to the original circular on babies issued by the Philadelphia Department of Health which is used for general distribution in the slum districts.

Western Drawing and Normal Training Association. This body met at St. Louis, May 4–7. Departmental round-tables were held in art instruction, manual training, and in household arts. Miss Clara Isabel Mitchell of the University of Chicago, and Miss Helen Day, of the Bradley Polytechnic Institute acted as chairmen of the section of household arts, and papers were given as follows:

The Relation of Domestic Art to Other Subjects in the Curriculum, Miss Grace Fuller, Supervisor Domestic Science and Art, State Normal School, Ypsilanti, Mich.; Preparation Necessary to the Training of a Teacher in Domestic Art, Miss Charlotte M. Gibbs, Instructor in Textiles and Clothing, University of Illinois; Co-operation of Grade Teachers with Teachers of Domestic Art, Fine Arts and Manual Training, Miss Maude R. Flickner, Central High School; and Domestic Science in the High School, Dr. Edna D. Day, Home Economics, University of Missouri, Miss Jessie Long, Supervisor Domestic Science, Saginaw, Mich., Miss Laura M. Kinsey, McKinley High School, St. Louis, and Miss Louise Stanley, University of Missouri.

At a general session addresses were given on The Claim for Domestic Courses in General Education, Miss Ellen C. Sabin, President Milwaukee-Downer College, Milwaukee, Wisconsin; The Socio-Economic Value of Domestic Art in the Education of Future Homemakers, Dr. Edna D. Day; and Our Opportunity in Shaping Public Taste, W. M. Davidson, Superintendent of Instruction, Omaha, Nebraska.

The Missouri Association of Applied Arts and Sciences held meetings May 3–6. The annual address was delivered by President A. Ross Hill of the University of Missouri who took for his subject The Place of the Applied Arts and Sciences in Secondary Education.

National Education Association. The Department of Superintendence of the National Education Association met in Chicago, Ill., February 23–25, 1909. The program included among other topics, a series of papers on industrial education. A feature of the Convention was the joint session with American School Hygiene Association, at which papers were presented on (1) The Necessity for Departments of Hygiene Within Boards of Education, by William H. Maxwell, Superintendent of Schools, New York City. (2) Hygiene of the Public Playground, by George E. Johnson, Superintendent of Playground Association, Pittsburg, Pa. (3) The Evil Influences of School Conditions upon the Health of School Children, by Woods Hutchinson, M.D. and (4) A Plea for the Systematic Annual and Universal Examination of School Children's Eyes, Noses and Throats, by Frank Allport, Professor of Clinical Opthalmology and Otology, Northwestern Medical School. The School Hygiene Association also held separate sessions during the Convention.

Secondary Schools. A tendency which has shown itself to some degree for the last few years is now developing with marked rapidity. This is the extension of work in the secondary schools with a decided vocational aim. The term vocational is used in this connection as including not only training for home-making, but also for some work which will make the high school graduate at least partially self-supporting. (Some five years ago a superintendent of schools in a New England city expressed a desire to have high school work in both domestic science and domestic art take such shape that the girl would have, if not a trade, at least the beginning of a trade, or something which

would help her to earn her own living.) This is one development of a general movement in the field of education, which shows itself most markedly in the trade school. So far, the trade schools in this country have given work mainly along domestic art lines. The instruction the girls have had in the domestic science field has been intended simply to give them some knowledge of housekeeping. But now in domestic science as well as in domestic art this other vocational tendency is apparent. The most highly developed work not strictly along trade lines is in the Practical Arts High School, Dorchester, Mass., where Miss Annie L. Bennett, director of the domestic science and art, has organized work in domestic science that gives the pupils training for catering.

Mrs. Blanche E. Hyde, director of household arts in the new Technical High School, Newton, Mass., also intends to develop vocational work in both domestic science and art as soon as is practicable.

Miss Ellen L. Rushmore, of the Manual Training High School, Brooklyn, N. Y., has kindly furnished the following information, which she wishes to have considered as tentative, rather than final:

"The course in the Manual Arts for girls is as follows (1 period consisting of 45 minutes).

Second year of High School Course,
2 lessons of 2 periods each in plain sewing.
Third Year of High School Course,
2 lessons of 2 periods each in domestic science,
3 periods millinery.
Fourth Year of High School Course,
2 lessons of 2 periods each in dressmaking,
3 periods of advanced domestic science.

"The object of the course in domestic science is to prepare students to be competent homemakers. With this end in view, the course is planned to cover work in preparation and serving of meals, the care of a bedroom, simple laundry work and general cleaning, with a little home-nursing.

"The course in the fourth year has been added only recently, and the new work has not been competently organized yet. Great interest is shown, however, in developing those phases of the subject which have a vocational tendency. But it is too soon to make any definite statement regarding the work. At the end of another year we expect to see some of our hopes realized, and shall be in a position to say something more positive."

Mr. Charles R. Allen in planning courses for the new High School at New Bedford, Mass., intends to have work that is decidedly vocational, using the word in both senses.

Will all superintendents or teachers who have already completed plans for work of this nature kindly send reports to Mrs. Ellen H. Richards, Massachusetts Institute of Technology, Boston, Mass.? This aspect of the work will probably be discussed at the Denver meeting of the American Association of Home Economics.

Elementary Schools. A letter has come from California asking how courses in cookery may be adapted to meet the needs of the various children of foreign birth or parentage in the public schools. Reports on this point giving practical experiences will be most helpful. In the New York City schools, both public and private, great attention has been paid on the part of the teacher to the study of Hebrew rules for kosher cookery. In the public school in a neighborhood where the children are all Hebrews, a kitchen has been furnished with equipment adapted to kosher cookery.

A report on this subject will be published in the fall if teachers will kindly send in the results of their experience. Letters should be addressed to Miss Helen Kinne, Teachers College, Columbia University, New York.

Connecticut Teachers of Home Economics. Twenty-five Connecticut teachers have agreed to hold a meeting at New Haven with the State Teachers Association to organize a State society of teachers of Home Economics. A committee is at work on plans for furthering this object.

Domestic Economy Teachers' Salaries in England. In a recent communication to *Education*, Miss Marjory Stephenson, Staff Teacher in Science in the Gloucestershire School of Domestic Science, discusses the status of Home Economics teachers in England. She points out that "We are told that to teach the art of Home Making to the children in our elementary schools is one of the highest aims that a woman can place before herself, and that on the successful performance of this great work depends the solution of many of our gravest economic problems; from this it follows that it is of the first importance that well-educated, capable, and energetic women should be induced to enter this branch of the teaching profession."

Yet, although the minimum time of training for diplomas in cookery, laundry and housewifery for work in elementary schools is two years, at a cost of about $900, the initial salary offered in the elementary schools is seldom over $400, and this rises by annual increases of $25 to only about $600. In many cases the start is below this and there is no assurance of an annual rise.

Miss Stephenson declares that, "Not until a teacher's salary exceeds $500 has she any margin for holidays or amusements; until then these can only be obtained through the charity of relatives and friends. And, in my opinion, no teacher receiving less than $600 can reasonably be expected to make any provision for her old age."

As a result, it is a common complaint that as soon as a domestic economy teacher has gained experience in elementary school teaching, she immediately seeks other and more remunerative work in secondary schools or elsewhere. Miss Stephenson, therefore, concludes that "if the status of the domestic economy teachers is to be raised to its proper level, salaries must go up."

BOOKS AND LITERATURE.

The Standard of Living Among Workingmen's Families in New York City.. Robert Coit Chapin, Ph.D. New York Charities Publication Committee, 1909, pp. 372. Cloth $2.00.

This comprehensive study was undertaken by a committee appointed at the Seventh New York State Conference of Charities and Corrections, held at Rochester, in November, 1906. The object was to ascertain the essentials and cost of a normal standard of living in the cities and towns of the state. The work was completed under a grant from the Russell Sage Foundation, the author, who is Horace White professor of economics and finances in Beloit College, serving as secretary of the committee. Very complete schedules of inquiry as to details of income and expenditure were distributed in Greater New York and 642 were returned, of which 391 were accepted as normal and accurate. Of these 318 represented incomes between $600 and $1,000. The leading nationalities were Americans, Russians and Italians, and about half were engaged in manufactures and mechanical trades.

From the large amount of very suggestive data set forth in detail, it is concluded that an income under $800 is not enough to permit the maintenance of a normal standard, while $900 or over probably does permit it, at least so far as the physical man is concerned.

The failure to maintain a normal standard may be due to causes quite outside of the capacity of the individual bread-winner or of the economic forces that determine the rate of wages, two of these outside considerations being the presence of too large families and the inability to make a wise use of the money earned. Regarding the latter point, the author points out that to bring expenditures down to the exact requirements of an ideal economy, "is not within the ability of the ordinary wage-earner's wife. She cannot spend hours in bargain-hunting, in experimenting with new food combinations, in making and mending garments. She has not, and cannot be expected to have,the training and ability to do all these things, even if she had the time. She has to take the methods of housekeeping that are traditional in her environment and apply them as skillfully and intelligently as her native and acquired powers of mind and body permit. What the exceptional woman might do cannot be made the measure of what the average woman may be expected to do, and if the morals and efficiency of the population are to be kept up, provision must be made for what the woman of average capacity must have to keep her family up to the prevailing standard. Only when education in a better economy is widely diffused, will it be possible to maintain the existing standards of physique and character on a lower absolute income."

In general, however, "the results of our investigation indicate that, while the personal factor does operate in the case of every family, both as regards the habits of the father and the managing ability of the mother, the limits within which it may affect the actual sum total of material comforts

that make up the living of the family are set by social forces. These social forces find expression, on the one side, in the income which the family receives—that is, in the rate of wages received by the father and others who are at work; on the other side, they are expressed in the prices that have to be paid to get housing, food, and the other means of subsistence. The actual standard that prevails is set primarily, therefore, by the wages paid and the prices charged."

In addition to the main study there are also given in appendixes reports of the committee on the standards of living in which the data are further discussed, a copy of the elaborate schedule used in the work, and brief reports of similar studies made in Buffalo and nine other cities and towns outside of Greater New York. The chief difference in the New York and Buffalo returns was as regards the lower cost of rent in the latter, but the author of the Buffalo report, John R. Howard, Jr., points out the difficulty in making sweeping generalizations from such comparisons. An article entitled A Working Man's Budget by F. Le Play, discusses the budget of a typesetter in Brussels.

The data with reference to food are discussed in an appended report by F. P. Underhill. With reference to the New York studies he states that "comparison between the amounts spent for food by well nourished and poorly nourished families indicates that in general when less than 22 cents per man per day is spent for food the nourishment derived is insufficient, and when more than 22 cents per day is expended the family is well nourished." . . .

As to the Buffalo studies "the general conclusion may be drawn that for 21 cents per man per day sufficient nourishment may be bought in the city of Buffalo to keep a man in bodily health and vigor at moderate muscular work. No definite relation appears to exist between the purchase of a preponderance of animal or vegetable food and an ability to live at a low figure."

The study also includes a summary of methods employed by previous investigators in making statistical studies of workingmen's budgets and a partial bibliography on the general subject of workingmen's budgets and the standards of living.—H. L. Knight.

How to Spend a Shilling on Food to the Best Advantage. S. H. Davies, York Health and Housing Reform Association [Food Chart No. 1]. folio.

In this chart which was prepared for the York Health and Housing Reform Association the nutritive ingredients and energy value of 25 cts. worth of a number of common food materials is shown by means of figures and the selected foods are briefly discussed.

The Computation of Rations for Farm Animals by the Use of Energy Value. H. P. Armsby, U. S. Department of Agriculture, Farmers' Bulletin 346, pp. 32.

Although this bulletin is written from the standpoint of feeding farm animals the discussions are for the most part of fundamental questions and are applicable to human as well as to animal nutrition. The author takes up such topics as the following: Components of the animal body; the

machinery of the body; the reserve material of the body; the composition of the entire body; the animal body as a machine; the demand for repair material; feed as a source of repair material; measurement of energy; feed requirements; the computation of rations; and general considerations.

As an interesting discussion of nutrition of the animal body, from the theoretical as well as from the practical standpoint the bulletin can be recommended to students of nutrition problems.

The Egg Trade of the United States. M. M. Hastings, U. S. Department of Agriculture, Bureau of Animal Industry, Circular 140, pp. 34.

In this discussion of eggs from the standard of the dealer as well as the consumer such questions are considered as quality in eggs; grade of eggs; detrimental changes in eggs and consequent losses; the consumers' position; methods of marketing eggs; and storage and preservation of eggs.

The Fireless Cooker, How to Make it, How to Use it and What to Cook. Caroline B. Lovewell, Frances D. Whittemore and Hannah W. Lyon; Home Publishing Company, Topeka, Kans., 1908, pp. 211, fig. 9.

Fireless cookers of home construction are described, and cooking with such devices is discussed on the basis of experience. The writer's experiments were perhaps rather more ambitious than is usual, and a number of plans for this method of cookery are described which it is stated have proved of much service in diminishing household labor. The way in which an old refrigerator was converted into a fireless cooker with an oven heated by hot soapstone or fire bricks, is described in one chapter. Other chapters discuss the insulated oven, the insulated cold box, and an insulated pail for keeping food hot or cold as is desired. In addition the volume contains a large number of receipts especially arranged for use with fireless cookers.

Bacteriology of the Household.

This is a pamphlet in the Cornell Reading Course for Farmers' Wives, being the first of a new series devoted to the subject of sanitation. It is well written, and gives a very satisfactory account of the bacteria, molds, and yeasts, which play a part in many of the practical operations in homes. There is also an important section on disease germs. The pamphlet is the kind of literature which deserves great popularity, and every one interested in sanitary science should commend the publication of such valuable information in a series of bulletins which goes directly to the people who must put the information into practical use.—M. A. Bigelow.

A Small House Plan.

In Breeders' Gazette, Vol. 55, No. 14, page 846, a farmer's wife submits the plan of a small house designed particularly to insure the saving of steps in housework. Critical comments of the plans are made by J. E. Wing of the editorial staff who is especially interested in such matters.

The Fight Against Consumption, St. Johns, Newfoundland. Robinson and Company.

This is a pamphlet of ninety pages reporting a unique Teachers Institute which brought together all the public school teachers of Newfoundland for a week's meeting in August, 1908, to be instructed as to the ways and means of co-operating in the campaign against tuberculosis. The Institute was conducted under the auspices of the Newfoundland Association for the Prevention of Consumption. Public opinion had been aroused in Newfoundland by the great increase of mortality from consumption which in five years has grown fully fifty per cent in every section of the Colony, with few exceptions. In two sections the mortality had actually doubled in this period. The ravages of the disease were especially terrible in the small fishing hamlets scattered up and down the coast. The only way to reach them seemed to be through the teachers to be found in such settlements. They were, accordingly, brought together for a week's instruction regarding preventive measures in tuberculosis hygiene. A program of meetings lasting from Monday evening to Friday afternoon was arranged, including papers and discussions, results of which are now brought together in this pamphlet. Recent reports from Newfoundland indicate that the Institute is bearing fruit. The suggestion of an Institute for teachers on this subject, is one that might well be followed generally in city, county, and other organizations of teachers.

The Hotel Monthly, published by John Willy, 325 Dearborn Street, Chicago, $1.00 a year.

This is a professional monthly in the sense that it is intended to circulate among hotel proprietors and stewards, and at the same time, to serve as a magazine of reference for travelers. Teachers of institutional cookery and institutional management will find in this journal articles of real value. For example, the February issue contains, on page 34, an article on Checking the Orders Against the Issues, which is the explanation of a system of store-room issues and baker's report sheets. Another very interesting article, on page 46, is a description of the Kitchen of the Baltimore, Kansas City, a kitchen which supplies a dining-room aggregating a thousand chairs. The article includes a plan of kitchen with a descriptive key. Another article is on the Housekeepers Daily Report Sheet and the Dining Room Record Cards in a Pittsburgh hotel. Discussions of the hotel and local option, rules for the bell-boy and other persons on the staff, and articles of professional interest, make up the reading matter of this number. The advertising pages are no less suggestive, with their entries of house furnishing establishments, and books which are useful in the management of hotels and clubs.

Sewing Machine Times, New York, $1.00 per annum, bi-monthly.

This is a trade Journal published for persons engaged in the manufacture and sale of sewing machines. Persons who are interested in the instruction of dressmaking and allied lines, will find in its advertisements and occasional notes, topics of direct bearing upon their instruction.

Recent copies have had historical articles on the development of the sewing machine and advertisements of specialties of technical interest.

Bulletin of the Domestic Reform League, January, 1909. Published by the Domestic Service Bureau of the Woman's Educational and Industrial Union, Boston. Reorganized 1897 as the Domestic Reform League.

This Bulletin gives some information regarding wages of women in domestic service. A table shows the weekly wages in various occupations to be as follows: Average in domestic service, $5.08; textile operatives, $7.15; saleswomen, $6.21; and teachers, $13.29. Adding in the allowance for room and board, the total wage of the servant becomes $9.08, the textile operatives $7.15, saleswomen $6.21 and teachers $13.29 weekly. The Domestic Reform League has published a series of Bulletins for free distribution, some of which are still available, and libraries of home economics should secure them.

The Bulletin of the North Carolina Department of Agriculture, Raleigh, N. C., October 1908.

This Bulletin includes an article on Domestic Science Railway Cars, (referred to in the April issue), and three lectures delivered at women's institutes: "Why We Should Attend the Institute"; "The Prevention of Disease in the Home"; "A Talk on Foods." There are also addresses delivered at the Women's Meeting of State Farmers' Convention,including the following: "The Country Woman's Spending Money" and "The Mother as a Source of Inspiration to the Child." Teachers of home economics will do well to inquire regarding publications of their State Department of Agriculture.

Monthly Bulletin in New York State Department of Health, Albany, N. Y.

The February number of this Bulletin contains an article on the "Investigation of Shellfish Beds and Shellfish" which discusses shellfish as related to typhoid, the pollution of waters and methods of investigation. About one-half of the Bulletin is devoted to vital statistics, but there are notes of value on tuberculosis, diphtheria, the disposal of sewage and other topics.

The State Versus the Home, Should there be a Central Government Department for Children? by Mrs. M. K. Inglis. *Fortnightly Review,* October, 1909.

This is an article emphasizing home life for children as contrasted with institutional life and urging the need of a Central Government Bureau which will be responsible for the protection of children. The first part of the article is devoted to "the problems" and includes a section which attempts, in brief form, to state the standards of Normal Home Life, Abnormal Home Life, Unsatisfactory Home Life, and Evil Home Life. For example, Unsatisfactory Home Life is classified as affected by: The Sweated Home-Worker, Travelling Showman, Itinerant Musician, Bargee, Tinker or Gipsy, Hawker, Casual Laborer, Unemployable, or Tramp and Vagrant.

Cornell Reading Course for Farmers' Wives, New York State College of Agriculture, Ithaca, N. Y.

For several years the New York State College of Agriculture has issued bulletins and conducted this course with Miss Martha Van Rensselaer as Supervisor. A new series on sanitation began with the issue of November 1908.

No. 1. Saving Strength by Mrs. Emily M. Bishop and Miss Van Rensselaer, gives many simple and sensible directions for relieving fatigue and adjusting household appliances to save human energy. The illustrations are even more forcible than the text. This contains sixteen pages.

No. 2. Insect Pests of House and Garden by Professor M. V. Slingerland, deals with those pests which eat clothing and furniture, get into food, annoy man, carry disease, and destroy house and garden plants. The cuts show the life history of each insect throughout all the stages of development. A bibliography of literature on household insects is given. This contains forty pages.

No. 3. The Laundry by Miss Flora Rose, deals with the many phases of this subject very fully.

A discussion paper accompanies each bulletin with several questions for the reader to answer and return to the College of Agriculture.—Anna Barrows.

House Painting, A. H. Sabin, M.S. John Wiley and Sons, New York, 1908. Pp. 121. Price, $1.00.

This volume fills a long felt want; its clearness and simplicity will appeal to the reader, and being written by a master, its contents will carry conviction. We have long wished for a manual which would make clear the basal principle of the art of house painting and decoration in a simple and attractive style. Without entering into an exhaustive analysis of the book, it can be said that the subjects of painting in oil and water color, varnishing, paperhanging, glazing and the preliminary treatment of old and new surfaces, is thoroughly discussed. Dr. Sabin seems to suggest that his book is for the amateur only; we think that many master painters might also read it with profit, and to the householder, old and new, this little volume will be a great boon.—H. T. Vulté.

Metropolitan Magazine, New York, is publishing a series of articles on The Prevention of Tuberculosis which began in the April number.

The Application of Scientific Methods to Housekeeping, by Mabel Atkinson, *Albany Review*, September, 1908, pp. 647–657, reprinted in Littel's *Living Age*, October 24, 1908, pp. 227–233.

Co-operative Housekeeping and similar questions are discussed.

The Hartley House Cook Book and Household Economist, by Ella A. Pierce, Lentilhon and Company, publishers, New York City, 1901. 172 pages, price 60 cents net.

Owing to the comprehensive yet simple method of treatment of the subject of household economics, The Hartley House Cook Book is alike valuable to the thrifty housewife and the teacher of domestic science.

The receipts are simple, yet in many cases unusual, ensuring helpfulness in securing variety to the diet. The household suggestions are invaluable. In short, quoting from the author, "It is recommended to those who wish to live well at a moderate cost."—Mary L. Caufield.

Borderland Studies, Miscellaneous Addresses and Essays Pertaining to Medicine and the Medical Profession and Their Relations to General Science and Thought, Vol. II. George M. Gould, M.D., Philadelphia. P. Blakiston's Son & Company, 1908.

The first of these essays in Volume II is entitled "The History of the House; The Struggle for Light and Air," and is a contribution in popular form to the literature of Home Economics. It makes plain the relation between housing and health which has held true in the history of disease and is now recognized to be one of the most important factors in the campaign of preventive medicine. The modern detached house which in most respects is in reasonable accord with the needs of health, is shown to be the result of a long evolution, the steps of which are made plain by nearly fifty illustrations. Now, for the city dweller, the process is set back by crowded conditions which have put fresh air and sunlight at a premium.

"Physicians agree that tuberculosis and pneumonia, if not other diseases, are house diseases." "The history of civilization as related to the house may be summed up as consisting of four epochs: 1. That of securing protection and warmth by means of the single-roomed, windowless hall; 2. That of the creation of the chimney; 3. That of the making of glass windows; 4. That of securing ventilation; and this is the stage in which we are now living and shall live for centuries to come."

The bringing together in brief form of interesting material regarding the house, and pointing to the further development required is indeed a useful service. The illustrations and the suggestive lines of thought given by the brilliant author make the essay one of unique value.

Among the other essays in the volume are: A System of Personal Biological Examinations, and The Seven Deadly Sins of Civilization. The latter are given as: Tobacco, Tea and Coffee, Alcohol, Sugar, Venereal Diseases, The Modern House (because of house-caused disease) and Eye Strain." While opinion may differ as to the makeup of the list, workers in home economics can not fail to be impressed by the fact that Dr. Gould's list falls almost entirely within the field of household concern and control.—B. R. A.

Civics and Health. William H. Allen, Secretary of Bureau of Municipal Research. New York: Ginn & Co. $1.50.

This work forms an important contribution to the literature of the present era, which deals with various aspects of the health problem. The author treats health in its relation to the individual, the family, the school and the community in general. The approach is from the social point of view and much emphasis is given to the idea that "health is a civic duty." The headings of the five divisions express briefly the dominant ideas of this book. They are as follows:

Health rights; reading the index to health rights; cooperation in meeting health obligations; official machinery for enforcing health rights; and alliance of hygiene, patriotism and religion.

Dr. Allen treats the subject in an unconventional, vigorous and stimulating fashion. The presentation is often dramatic and even spectacular. Illuminating cuts, charts, tables and outlines add to the graphic quality. The material is strictly modern and some of the statements and conclusions will be criticized as drawn from insufficient or doubtful premises. The treatment of some topics is necessarily fragmentary and the transition at times abrupt. It may be admitted that the author indulges in apparent exaggerations in some places and that some of his epigrams need qualification and explanation in the interest of conservative exposition. However, it is evident that this book is not intended to be conservative and the opinions seem to the reviewer almost without exception essentially sound and convincing. While the book will benefit all classes of readers, it may be read with particular profit by parents, physicians, nurses, teachers, ministers and social workers.

It is impossible to give any accurate impression of this book without direct examination and the unbiased critic may bespeak for it a wide circulation and an effectively useful career. It is a pity that such a book could not be advertised as skillfully as the patent medicines.—Thomas D. Wood, Columbia University.

Equipment for the Teaching of Domestic Science, Helen Kinne. *Teachers College Record*, May, 1909.

This pamphlet is intended primarily for normal students who are studying domestic science methods. It should, however, be useful to any superintendent or teacher who is intending to equip a domestic science room or department. It treats of equipment for cookery, table setting and service, cleaning, laundering and home nursing. It is illustrated by drawings and photographs. It also contains a description of the New School of Household Arts, Teachers College. It may be secured by addressing the Teachers College Museum, price thirty cents.